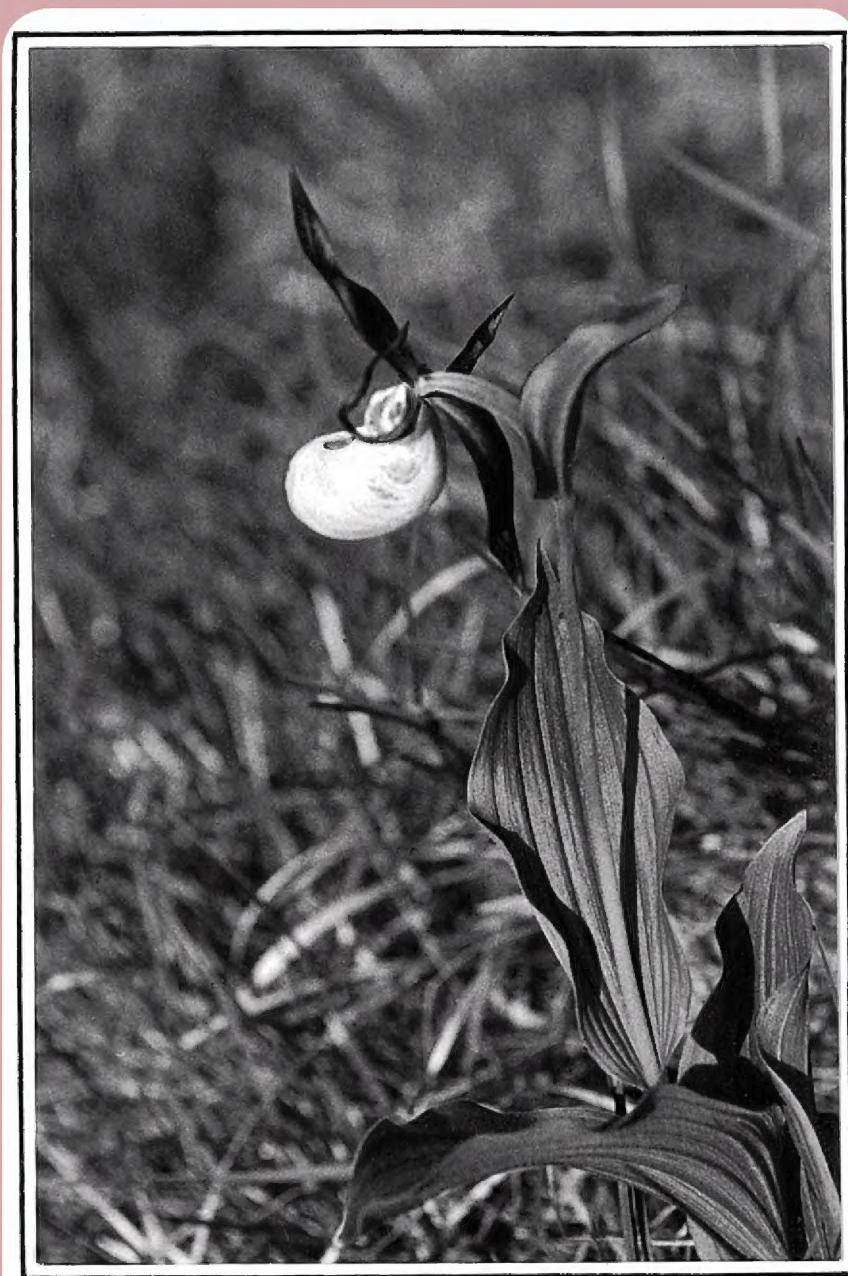


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Lady's Slipper (wild).
Yks. date. June. 1962.

John Arnott
F.R.P.S.



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Front cover: Lady's Slipper Orchid *Cypripedium calceolus* photographed in 1962 by John Armitage FRPS. (Source: Natural England Archives, with permission)

Back cover: Re-enactors Charlie Fletcher, Jill Warwick, Joy Fletcher, Simon Warwick, Sharon Flint and Peter Flint on their visit to Fountains Abbey (see p161).

The Naturalist

YNU visit to Fountains Abbey, 6th May 2016 - a reconstruction of a YNU event on 6 May 1905

Jill Warwick

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A re-enactment of a visit by members of the YNU to Fountains Abbey, following the valley of the River Skell through Ripon and into Studley Park, was the idea of the then President, Simon Warwick, a local Ripon resident. This was to be some 111 years after a previous YNU Excursion to the area (Sheppard & Woodmead, 1905).

It was also suggested that to add to the overall atmosphere of the day, participants, if at all possible, could wear period costume (see back cover)! So it was that seven adventurous members mustered at High Cleugh, Ripon, at the confluence of the Rivers Skell and Laver, on a bright morning on 6 May 2016. Contrast this with the “exceptionally large attendance of members..... from no fewer than 18 societies” in 1905, from all quarters of the county, many of whom would have travelled to the area by rail or other public transport, such was the attraction of exploring the Fountains Abbey estate.

At the start of the 20th century, the Studley Royal estate (incorporating the ruins of Fountains Abbey) was owned by the Marquis of Ripon (himself a YNU member) who had given his permission for the field meeting to be undertaken in the parkland. Lord Ripon had been interested in scientific study when a younger man, before his life became devoted to political matters, becoming the MP for Ripon and later being appointed GVCO (Knight Grand Cross of the Royal Victorian Order).

The original 1905 party assembled at Ripon Town Hall prior to commencing the walk along the Skell valley where they were greeted by the Town Clerk. Members were shown around the “little museum”, curated by Ripon naturalists, which was being temporarily



Figure. 1. The beetle *Ptinus sexpunctatus*. C.H.Fletcher

housed at the Town Hall due to the building of the Ripon Spa Baths (which externally have not altered in 111 years). Sadly, it appears that the museum was never moved to its “new and more convenient home” and, as far as is known, the artefacts disappeared without trace, possibly sold or even destroyed. Also tragically lost was “an excellent collection of coleoptera made by Lord Ripon” in his youth – one can only speculate on the records which might be missing from the Yorkshire database as a result.

The appropriately attired modern-day YNU members, having duly assembled at High Cleugh and taken the obligatory ‘team photo’ (see back cover), set off recording all mammal/bird/wild flower/butterfly species seen and/or heard during the walk, in order to replicate as much as possible the recording which took place in 1905. The route followed the meandering River Skell valley, through Whitcliffe Woods (so named because of the local white Magnesian Limestone “cliffs”) and across ‘improved’ grassland into the woodland beyond, before entering the famous valley of the Seven Bridges on the Fountains Abbey estate, finally arriving at Studley Lake. To complete the re-enactment, much-needed refreshment was also taken at the Studley cafe. The re-enactors were still wearing period costume which caused much fascination with members of the public and an opportunity to promote the YNU!

During the walk the botanists eagerly discussed the possibility of relocating the rare Common Barberry *Berberis vulgaris* which historically grew on the exposed rock face on Echo Cliff opposite the Abbey. A quick search along the rocks through binoculars failed to locate any plants but a more thorough site investigation may be successful. A list of all plants recorded on the day is available although not reproduced here.

The entomologists recorded just four species of butterfly, namely Orange-tip *Anthocharis cardamines*, Green-veined White *Pieris napi*, Peacock *Aglaia io* and Small Tortoiseshell *Aglaia urticae*, whilst moth-trapping using the modern convenience of mercury vapour light traps was carried out on the estate the previous night (in proximity to woodland areas). Although a cool night, some 17 species were recorded, the most notable being Lunar Marbled Brown *Drymonia ruficornis*, associated with mature Oak trees. Additional records in the form of caddis flies were collected from the light traps – did caddis fly keys exist in 1905? An unexpected bonus inside one moth trap was the attractive beetle *Ptinus sexpunctatus* (see Figure 1, p161) which was subsequently confirmed as only the fourth Yorkshire record.

The ornithologists, both in 1905 and 2016, enjoyed a profusion of early May bird song, it being the start of the breeding season. It is thought-provoking to compare the list of bird species recorded in 1905 (47) with those of the present day (50) – there are, of course, many similarities but also quite noticeable contrasts between the two centuries (see Table 1). To quote Riley Fortune FZS, in 1905 “Mackershaw Wood abounded with Wood Wrens [sic] ... sandpipers were very plentiful and noisy.” In contrast in 2016 not one Wood Warbler (Wood Wren) was heard. Indeed none have been recorded in the Fountains Abbey area for over 20 years (and Spa Gill Wood, on the western boundary of the estate, was once a stronghold). Consulting the figures from the British Trust for Ornithology website (see BirdTrends), the UK Wood Warbler population declined markedly (56%) during the mid-20th century. Likewise, Common Sandpiper was also absent, the national population having contracted (by 47%) particularly since the mid-1980s - in the Harrogate area most records are now from the higher ground. Other once-common migratory breeding species not recorded in 2016 included the Cuckoo (population decline of

75% since 1967), Yellow Wagtail (declined by 70%) and Tree Pipit (declined by ~80%, mostly in England).

In contrast, other species have experienced population increases over the same time period, notably Common Buzzard (700%) and Goosander (only colonised northern England in the 1940s, increased by over 100%). Common Pheasant and Red-legged Partridge, both non-native species and released for game shooting, were more than evident (approximately 41 to 50 million released annually, but no exact figures exist); sadly no English (Grey) Partridge, the native British species, were apparent in 2016, reflecting the species' 90% decline suffered throughout the UK (and mirrored in Europe).

Apparently, some things never change – even in 1905, the Chaffinches were noted as being eager to exploit the crumbs left by visitors at the cafe (quaintly referred to as the Refreshment House), "...quickly pounced upon every morsel thrown to them."

Table 1. A comparison of bird species recorded on YNU visits in 1905 and 2016.

2016	1905
Mute Swan <i>Cygnus olor</i>	Mute Swan
Mallard <i>Anas platyrhynchos</i>	<i>Wild Duck</i>
Tufted Duck <i>Aythya fuligula</i>	
Goosander <i>Mergus merganser</i>	
Red-legged Partridge <i>Alectoris rufa</i>	English (Grey) Partridge <i>Perdix perdix</i>
Common Pheasant <i>Phasianus colchicus</i>	Common Pheasant
Common Buzzard <i>Buteo buteo</i>	
Moorhen <i>Gallinula chloropus</i>	<i>Waterhen</i>
Coot <i>Fulica atra</i>	
Oystercatcher <i>Haematopus ostralegus</i>	
Curlew <i>Numenius arquata</i>	Common Sandpiper <i>Actitis hypoleucos</i>
Black-headed Gull <i>Chroicocephalus ridibundus</i>	
Stock Dove <i>Columba oenas</i>	<i>Stock-Dove</i>
Wood Pigeon <i>Columba palumbus</i>	<i>Ring-Dove</i>
Swift <i>Apus apus</i>	Cuckoo <i>Cuculus canorus</i>
Green Woodpecker <i>Picus viridis</i>	Kingfisher <i>Alcedo atthis</i>
Great Spotted Woodpecker <i>Dendrocopos major</i>	Great Spotted Woodpecker
Kestrel <i>Falco tinnunculus</i>	
Magpie <i>Pica pica</i>	
Jackdaw <i>Corvus monedula</i>	Jackdaw
	Rook <i>Corvus frugilegus</i>
Carrion Crow <i>Corvus corone</i>	
Goldcrest <i>Regulus regulus</i>	Goldcrest
Blue Tit <i>Cyanistes caeruleus</i>	Blue Tit
Great Tit <i>Parus major</i>	Great Tit
Coal Tit <i>Periparus ater</i>	<i>Cole Tit</i>
	Marsh Tit <i>Poecile palustris</i>
	Skylark <i>Alauda arvensis</i>

2016	1905
	Sand Martin <i>Riparia riparia</i>
Swallow <i>Hirundo rustica</i>	Swallow
House Martin <i>Delichon urbicum</i>	<i>Martin</i>
Long-tailed Tit <i>Aegithalos caudatus</i>	
	Wood Warbler (Wood Wren) <i>Phylloscopus sibilatrix</i>
Chiffchaff <i>Phylloscopus collybita</i>	Chiffchaff
Willow Warbler <i>Phylloscopus trochilus</i>	Willow Warbler
Blackcap <i>Sylvia atricapilla</i>	Blackcap Warbler
Garden Warbler <i>Sylvia borin</i>	Garden Warbler
Whitethroat <i>Sylvia communis</i>	
Nuthatch <i>Sitta europaea</i>	Nuthatch
Treecreeper <i>Certhia familiaris</i>	Treecreeper
Wren <i>Troglodytes troglodytes</i>	Wren
Starling <i>Sturnus vulgaris</i>	Starling
Dipper <i>Cinclus cinclus</i>	Dipper
Blackbird <i>Turdus merula</i>	Blackbird
Song Thrush <i>Turdus philomelos</i>	Song Thrush
Mistle Thrush <i>Turdus viscivorus</i>	<i>Missel Thrush</i>
Robin <i>Erythacus rubecula</i>	Robin
Pied Flycatcher <i>Ficedula hypoleuca</i>	Pied Flycatcher
Dunnock <i>Prunella modularis</i>	<i>Hedge Warbler</i>
House Sparrow <i>Passer domesticus</i>	House Sparrow
Tree Sparrow <i>Passer montanus</i>	
	Yellow Wagtail <i>Motacilla flava</i>
Grey Wagtail <i>Motacilla cinerea</i>	Grey Wagtail
	Pied Wagtail <i>Motacilla alba yarrellii</i>
	Tree Pipit <i>Anthus trivialis</i>
	Meadow Pipit <i>Anthus pratensis</i>
Chaffinch <i>Fringilla coelebs</i>	Chaffinch
Bullfinch <i>Pyrrhula pyrrhula</i>	
	Greenfinch <i>Carduelis chloris</i>
Goldfinch <i>Carduelis carduelis</i>	
	Yellowhammer (Yellow Bunting) <i>Emberiza citrinella</i>
50 species	47 species

- for ease of comparison, the species order is that of the British Ornithologists' Union *The British List: A Checklist of Birds of Britain* (9th edition).
- a gap indicates the species was not recorded.
- names in Italics in the 1905 list indicate the vernacular names in use at the time.

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The Lady's-Slipper Orchid in 1930: a family secret revealed

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Introduction

Since the formation of the Cypripedium Committee in 1969 to help protect our native Lady's-Slipper Orchid *Cypripedium calceolus* and its habitat, much about it has been documented. However, information before 1969 is scant because the orchid and its location were kept a closely guarded secret for nearly forty years. Attempts to unravel the mystery of the orchid and its rediscovery have largely been based on the synthesis of correspondence between established naturalists and the credibility of that information. Up to now the generally accepted story was that the orchid was probably rediscovered by the Jarman brothers in 1930 (Lee, 2015). The purpose of this article, by seeking an original source, is to investigate this claim and to attempt to uncover how an orchid, thought to be extinct in the wild in Britain since 1917, was rediscovered and to understand some of the history of what might have occurred between its rediscovery and the formation of the Cypripedium Committee.

The Jarman Family

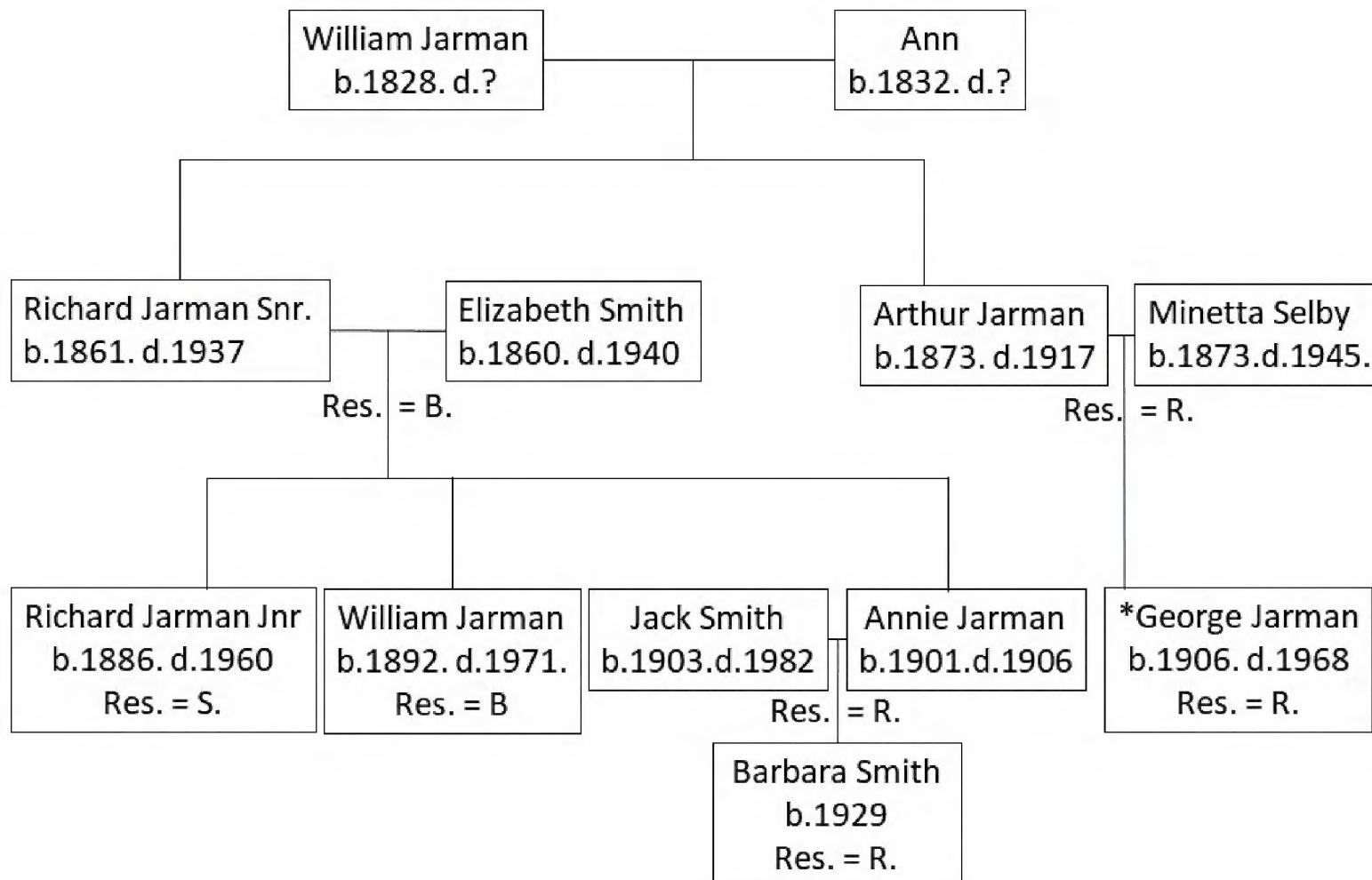


Figure 1. A section of the Jarman family tree. * = Original 1930 re-discoverer of *C. calceolus* along with Shadrach Fleet. Res. = residences in 1930; B = Brunthwaite; R = Riddlesden; S = Silsden. Later in life the Smith family moved to Brunthwaite. Shadrach Fleet (b.1903 d.1958) lived at Dalton Terrace, Keighley.

The name 'William (Willie) Jarman' was my starting point as it was often quoted as being the name of the original finder (Frankland, 1975; Lee, 2015; Bersweden, 2017; Dunn, 2018). By working out the Jarman family tree (see Figure 1, p165) I identified one last surviving close family member, Barbara Smith, the only child of Jack Smith¹ and Ann Elizabeth (Annie) Jarman.

It came as rather a surprise to her when we met and I asked if she knew about the orchid, and her surprise grew when I explained that the real story had never been told and it was my belief that no-one knew it. Though her eyesight was failing she appeared to hear well and spoke clearly with a marvellous depth of understanding that a long life can bring. Her memory was also exceptional, considering I was asking questions about issues from such a long time ago, but it soon became evident that being only aged one at the time the orchid was found, it was only later in life she became fully party to the secret and to the information herein. In most instances she was able to state names or facts backed up with sufficient clarity of detail that left me with little doubt about the authenticity of her word. One particular circumstance illustrates this. On 17 July 2019, when I met Barbara, I explained that I had been to Settle to view the manuscripts of Norman Frankland's *A Flora of Craven*, in which I had seen written a reference taken from *A Supplement To The Yorkshire Floras* by Lees (1941) that in 1937 the Lady's-Slipper Orchid flowered in the 'known' location. Barbara seemed sure that it had not flowered in 1937 and spelled out that it flowered every year until 1935 then failed to flower for about 8 years. I subsequently looked into this and records written by her uncle Richard, held by Natural England, and also corresponding ones found in the Chatsworth Settlement Archival Records, proved her to be correct. Her intimate understandings of the Lady's Slipper Orchid, knowledge of the Jarman family and the inter-relationship of her side of the family were indisputable; for many years she had been carer to her auntie Cissy (Harriet Jarman), a family tie which sadly prevented her from attending the funeral of Richard Jarman (Jnr). Over nine visits (May-September 2019), I was able to gain much information from her and so, in many respects, this is her story more than mine.

The rediscovery and subsequent developments as recounted by Barbara Smith

The Lady's-Slipper Orchid was found on Friday 6 June 1930. Being Whitsuntide, a popular time for walks or strolls, Richard Jarman (Snr), Barbara's Grandfather, at seventy years of age, had unusually decided to stay at home. He loved the countryside and, being a proficient naturalist, knew where all the locally rare plants were and, as a father, had enlightened his children with his knowledge of nature. Indeed, the desire for his children to appreciate nature was the very reason why he had moved to the hamlet of Brunthwaite near Silsden in contrast to the noisy and dusty workings of the textile mills the family were familiar with.

That same morning his nephew George, from Riddlesden, along with his companion Shadrach Fleet from Keighley, had arranged to go out cycling on their tandem. Normally Jack Smith (Barbara Smith's father) would have gone out cycling with them but because it was Whitsuntide local people were around so he had decided to stay behind and open up his popular fish and chip shop business in Stockbridge, Keighley. George Jarman and Shadrach Fleet set out to ride into the Yorkshire Dales towards Grassington. On their arrival they laid down their bike at a local wood and decided to go for an exploratory walk.

¹ Jack was a byname; his birth name is John Robert (Smith).

They moved through the enclosed woodland canopy, gaining height, eventually filtering through its rough fringes into the scar landscape typical of the area. Scrambling about on the difficult terrain, by chance they encountered the Lady's-slipper Orchid with fourteen shoots, one being in flower (see Figure 2, p168 and front cover). George Jarman, like other, wider family members having knowledge of wild flowers, instantly knew the significance of the find. Shadrach Fleet, George's companion, on the other hand, was simply a friend to go cycling with and it is unknown if he had any knowledge of wild flowers or natural history. Being elated at its discovery they hastily cycled back to Brunthwaite to tell George's uncle, Richard Jarman (Snr). Upon the disclosure Richard was thrilled and he made an effort soon after to visit it himself. Barbara Smith intimated that Richard could not drive so she believes it was very likely his son William (Barbara Smith's maternal uncle) who drove him there. Barbara also stressed several times on my visits that it was George Jarman that first set eyes on the Lady's-slipper Orchid that day.

Richard decided to keep the finding a close family secret. However, several years later he felt obliged to inform certain 'esteemed' people about its existence, including the 11th Duke of Devonshire, Andrew Cavendish, as the orchid was thought to be on his land. Barbara explained that it was her father Jack who informed the Duke about the existence of the orchid; though generally Jack would speak to anyone, he became shy at the thought of speaking to someone of a much higher status so he refused to meet the Duke himself but agreed to meet his agent instead to ask if he would view the orchid and relay the information to the Duke. This account of events has distinct similarities to the account given by Thomas Hey (1949) in the *Dalesman* magazine, though whether Thomas Hey is a pseudonym of Ernest Ellis Hey, the Duke's agent (in training) at that time, has yet to be ascertained. Hey's article mentions Cononley, a village only a mile from Bradley where the Jarmans worked and there is also a reference to the giving of detailed flowering notes which further supports the likelihood that it is one of the Jarmans detailing the find. Hey details how an expectation of a discussion regarding troublesome foxes turned into a surprise. My hypothesis is that the tale of the foxes was a ruse to ensure the true purpose of the requested meeting would not be divulged. In Hey's opening account there is also mention of his desk in Bradford which concurs with Benedict Heyes, the current Duke's estates director, who believed that there was an estate office in Keighley at that time as the Duke had land nearby (Heyes, 2019). Is this the referenced 'desk in Bradford'? It may be that we will never know who wrote this article and communicated knowledge of the orchid's existence outside the family circle.

On the death of Richard Jarman (Snr) in 1937 aged 78, Richard (Jnr), being the eldest son of the family, decided to take control of the orchid issue. He managed the interested orchid fraternity and kept a comprehensive log of the orchid colony's growth. Over the years he wrote many letters to people they held in esteem, detailing the fortunes of the colony. Each letter was signed R. Jarman, possibly the origin of references to 'Bob' Jarman (Lee, 2015) on the assumption that the 'R' refers to a Robert! In 1964 William Jarman also corresponded by letter, giving authority to allow two unnamed ladies to accompany a party to see the orchid (Jarman, 1964).

The true finders, George Jarman and Shadrach Fleet, were never disclosed by the Jarman family. When Richard submitted plant records to the trusted plant recorders Eric Lloyd Jones and Eric Hardy in 1952 (Kent, 1954) and to Joan Duncan (Secretary of The Wharfedale



Figure 2. Lady's-Slipper Orchid
Cypripedium calceolus photographed at its Yorkshire site in 1930 (Source: Chatsworth Settlement Archives, with permission).

Naturalists' Society) in 1962 (Jarman, 1962) he ascribed the finding to his late father Richard. Barbara explained that when the Jarman family told Kew Gardens of the existence of the Lady's-slipper Orchid Kew wanted to come and dig it up. Being deeply unhappy with this response the Jarmans decided not to immediately tell Kew where it was. Dr Mike Fay, Kew's representative on the Cypripedium Committee, explained "I haven't heard any stories about the site being kept secret because Kew wanted to dig the plant up – other rediscoveries (e.g. that of *Orchis militaris* by Lousely) were also kept secret for a number of years, so maybe this was the way such matters were handled at that time" (Fay, pers.comm., 2019).

Richard Jarman (Jnr) and his brother William, along with Jack Smith and Earnest Hey collectively formed a pact known as the Guardians to manage the orchid (Hey, undated). Earnest Hey collaborated with Rex Graham (Botanist at Kew Gardens), in part by a need for a confidant to address ongoing concerns. Worries had been raised due to the increasing list of other dignitaries, including Eric Lloyd Jones, Eric Hardy, John Raven, Rosse Butterfield, John Gilmour and many others, who had also been shown the orchid and had sworn to its secrecy (Hey, 1958). Some had become more involved than the Guardians wished and of particular issue was Dr Arthur Sledge's involvement in 1958, who hadn't made an oath, but also Eric Hardy's publishing antics, a few years earlier, which by plant association had likely enabled the orchid's locality to be disclosed (Hey, 1958). After the sudden death of Rex Graham in 1958 a letter to him from Earnest Hey was finally unearthed in 1960 by Edgar Milne-Redhead, Deputy Keeper of the Herbarium and Library at Kew and correspondence with Kew was re-affirmed (Milne-Redhead, 1960). After many years overseeing the orchid project, age and infirmity took their toll on Richard Jarman (Jnr) and, prior to moving away from Silsden, he decided to relinquish his role and in 1969 a meeting was held which gave rise to the Cypripedium Committee (see Figure 3 p169). In 1972 William Jarman, the last Jarman family member living in Brunthwaite, died, leaving the vigil to the Smith family. Jack Smith customarily visited each year when the orchid was in flower. Some years his visits were quite frequent and worryingly accompanied by

many neighbours or chosen friends (Warden's Report, 1977). In that same report and also in the Warden's Report 1979 it is rather strangely recorded that he had found the orchid in 1928, two years earlier than known, something Barbara was appalled to hear since, as far as she was concerned, it was the wrong person and the wrong date. Nonetheless, on her father's death in 1982, Barbara scattered his ashes in the woods near the orchid as she felt that would have pleased him.

Apart from Barbara's disbelief that the orchid's story had not been told and the true re-discoverers known, she felt quite concerned about what untruths had been told about the family. One in particular was a letter to naturalists Elizabeth and Brian Shorrock, in which it is said that the finders of the orchid were the brothers Willie and Richard Jarman Jnr, both of whom were described as spinners working at Greens Mill, Bradley (Frankland, 1975). Barbara was displeased by this letter for not only had the Jarman brothers been erroneously identified as the finders but they didn't work for anyone else, being commissioned weavers running their own business and renting premises at Stirls Mill in Bradley, North Yorkshire (Green, 1965, Throup, 1987) until 1949.

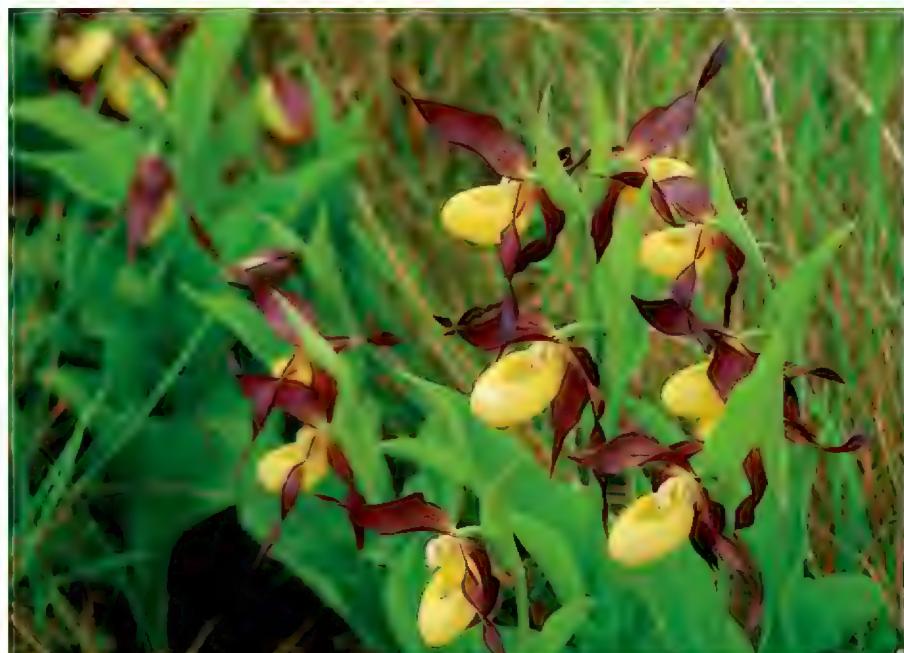
Conclusion

William (Willie) Jarman was believed to be the original re-discoverer of the Lady's-Slipper Orchid but, as explained by Barbara Smith, it was in fact George Jarman and Shadrach Fleet. William was a guardian who took an active interest in it, wrote the occasional letter and likely drove his father Richard Jarman (Snr) regularly to see the orchid. There is some evidence to suggest that Richard Jarman (Jnr) wanted his father to take all credit for its finding rather than let known the names of the true re-discoverers. According to the Warden's reports in the late 1970s, Jack Smith worryingly showed the orchid to many and also, after Richard (Jnr) moved away, possibly made an open attempt to claim being the finder two years earlier than the recognised date.

What is certain is that Barbara Smith, who up to now had not been asked about her family's involvement with the Lady's-slipper Orchid, has described her recollections of the family history and named George Jarman and Shadrach Fleet instead of William Jarman as the re-discoverers of the orchid, thereby shedding new light on a significant natural history event in Yorkshire that took place nearly 90 years ago.

Figure 3. Lady's Slipper Orchid growing at Gait Barrows NNR, Cumbria. These plants derive from tissue cultures taken from the original Dales plant and grown on by staff at Kew, under the auspices of the Cypripedium Committee.

J. Simmons



Dedication

Dedicated to the Jarman Family, The Fleet Family and the Smith Family and all those guardians of nature.

Acknowledgements

Without the following help I could not have achieved this work, thank you all: Barbara Smith for letting be known her great Family Secret; Christine Hancock a cheerful neighbour who kindly helped to research ancestry; Dr Gerard McGowan for access to the herbarium at Cliffe Castle Museum; Dr Mike Fay at Kew Gardens for his opinion and direction; Professor John Lee for help in my queries and general support; Colin Newlands for access to The Natural England Archives and continuous generous help; Ben Hayes for access to The Chatsworth Settlement Archives held at Bolton Abbey and enthusiastic spirited support; Peter Selby for his personal support, historical research and continuously keeping me enlightened; Elizabeth Shorrock for personal correspondence; and Michael Slater, a great trustee of The North Craven Heritage Trust for his charitable time. Finally, I am grateful to the YNU Editorial Board for their comments which improved the manuscript.

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The mite records (Acari: Astigmata, Prostigmata) of Barry Nattress: an appreciation and update

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Introduction

The late Barry Nattress (Bowers & Baker, 2019) carried out the first survey of mites associated with the feathers of Yorkshire birds. These comprised the feather mites (Astigmata: Analgoidea, Pterolichoidea), different species of which are adapted to the various micro-habitats provided by feathers, and the quill mites (Prostigmata: Cheyletioidea: Syringophilidae), which are limited to the inside of the quills. Both groups are sometimes referred to as parasites but few species harm their hosts; feather mites evidently scavenge oily substances covering the feathers and either deliberately or accidentally take in adhering fungal spores while quill mites pierce the quill wall to feed on tissue fluids on the other side. There is still much to learn about the relationship between these mites and their hosts, although recent studies of feather mites have variously reported negative, positive or no effects on their hosts (Galván *et al.*, 2012). Whatever the case, data on the identity of the species present are fundamental to obtaining valuable information about host health, evolutionary relationships, population structures, environmental stresses and climatic conditions.

Initially inspired to apply his interests in natural history and microscopy to mites by Dr Richard (Sandy) Baker (deceased), a mite researcher at the University of Leeds, Barry became the first person to study the UK members of these groups in detail for over 80 years. The most comprehensive treatment of the feather mites when he began his work had been published in 1934 by Hull, who compiled a list of species that had actually been collected in the UK and some he thought likely to occur as their hosts live here. Unfortunately, apart from one species, the category to which each belonged was not specified. Additional records were published piecemeal by Hull and other authors in faunistic surveys and taxonomic research, mostly before about 1970 (e.g., Hull, 1932; Radford, 1939; George, 1955; Atyeo & Braasch, 1966). The quill mites have received even less attention with only three species now considered valid being recorded in the UK before Barry's studies (Turk, 1953; Kethley, 1970).

The taxonomy of feather and quill mites is not easy to get to grips with. Most individuals have a body length of less than 0.7mm and the features used to distinguish between life stages and species are correspondingly minute. Furthermore, as for many other groups of mites, their literature is scattered amongst a variety of scientific publications and there are few comprehensive works to consult, making it difficult for researchers without access to an extensive library to find works to aid identification and to determine geographical distribution and host associations. Despite these obstacles, Barry's attention to detail, powers of observation and perseverance enabled him to identify a total of 86 species, all additions to the Yorkshire fauna. Two of the 67 feather mite species he found were new to science and 24 new to the UK fauna, while 26 of the host records were new UK associations and six suspected to be new world associations. Of the 19 species of quill mites, two were new to science and 15 new to the UK. One host association was a new world record but was thought to be a result of transfer between prey and predator (Nattress, 2011, 2012b). The results of Barry's work were published

in 10 papers, five in *The Naturalist*, the first appearing in 1995 and the last being submitted shortly before his sad death last year (Dabert *et al.*, 2008, 2010; Nattress, 1995, 2006, 2011, 2012a, b, 2019, Nattress & Skoracki, 2007, 2009).

As well as his publications, Barry left a well prepared and documented slide collection of permanently mounted mites, which will be housed in the Arachnida Collection of the Natural History Museum, London. He presented the bulk of the material in person a few years before his death during the course of a long and wonderfully entertaining lunch with me and Mrs Jan Beccaloni, the Curator of the collection.

Barry's significant contribution to our knowledge of feather and quill mites deserves to be celebrated. This is demonstrated here by the bringing together of all his records and the updating of their status (square brackets contain names/dates as they appear in Barry's papers).

FEATHER MITES (Astigmata)

Superfamily Analgoidea

Family Alloptidae [Proctophyllodidae]

Brephosceles discidicus Peterson, 1971

Nattress (1995) [*anatina*]: new to UK. Nattress (2006) [*Brephoceles discidus*]: corrects the identification in Nattress (1995).

Family Analgidae

Analges beaucournui Gaud, 1974 [1973]

Nattress (2006) [*beaucornui*]: new to UK.

Analges corvinus Ménchin, 1877

Nattress (2012a): new to Yorkshire; new UK host records (Carriion Crow *Corvus corone*, Rook *C. frugilegus*).

Analges mucronatus (Buchholz, 1869)

Nattress (1995) [Analgesidae; *Analgopsis*]: new to Yorkshire. Nattress (2006) [Buchholtz].

Analges passerinus (Linnaeus, 1758)

Nattress (2006) [*Analges.s passerinus*]: new to Yorkshire; new UK host record (Greenfinch *Chloris* [*Carduelis*] *chloris*). Nattress (2019): new UK host record (Goldfinch *Carduelis carduelis*).

Analges picicola Černý & Schumilo, 1973

Nattress (2019) [*Analges sittae* Mironov, 1985]: new to UK.

Remark. *Analges sittae* was proposed as a junior synonym of *A. picicola* by Mironov (2011).

Analges pollicipatus Haller, 1882

Nattress (2006): new to UK.

Remarks. The only other published UK record for this species appeared in Hull (1934) but, as he did not specify whether it had actually been collected here or was expected to occur here, the new country record is attributed to Nattress (2006).

Analges spiniger Giebel, 1871

Nattress (2012a): new to UK.

Analges tridentulatus Haller, 1882

Nattress (1995) [Analgesidae; *Analgopsis*]: new to Yorkshire.

Analges turdinus Mironov, 1985

Nattress (2012a): new to UK.

Anhomialges bakeri Dabert, Nattress & Labrzycka, 2010

Dabert *et al.* (2010): description of species new to science collected from Common Chiffchaff *Phylloscopus collybita* in Yorkshire. Nattress (2012a): repeats locality and host data given in Dabert *et al.* (2010).

***Diplaegidia columbae* (Buchholz, 1869)**

Nattress (1995) [Analgesidae]: new to Yorkshire; new UK host record (Collared Dove *Streptopelia decaocto*). Nattress (2012a): new UK host records (Feral Rock Dove *Columba livia*, Wood Pigeon *C. palumbus*).

***Megninia cubitalis* (Mégnin, 1877)**

Nattress (2006): new to Yorkshire; new UK host record (Grey Partridge *Perdix perdix*); suspected new world host record (Red-legged Partridge *Alectoris rufa*). Nattress (2012a): new UK host record (Domesticated Chicken *Gallus gallus domesticus*). Nattress (2019).

***Megninia ginglymura* (Mégnin, 1877)**

Nattress (1995) [Analgesidae]: new to Yorkshire; new UK host record (Pheasant *Phasianus colchicus*). Nattress (2012a).

***Strelkoviacarus quadratus* (Haller, 1882)**

Nattress (2012a): new to Yorkshire; new UK host record (Blackcap *Sylvia atricapilla*); suspected new world host record (Longtailed Tit *Aegithalos caudatus*).

Remarks. Nattress (2012a) states that *S. quadratus* was first described from Blackcap but the type host is given as the Grey-headed Woodpecker *Gecinus canus* (= *Picus canus*) in Haller (1882).

Family Epidermoptidae

***Microlichus turdicola* Fain, Gaud & Philips, 1987**

Nattress (2012a) [*turdiculus*]: new to UK.

Family Proctophyllodidae

***Joubertophyllodes modularis* (Berlese, 1895) [1894]**

Nattress (2006): new to Yorkshire; new UK host record (Dunnock *Prunella modularis*). Nattress (2012a).

Remarks. Hull (1934) reported this mite from the same host (under the name Hedge-sparrow), but as he did not specify whether this was an actual or presumed UK occurrence, the new UK host record is attributed to Nattress (2006).

***Monojoubertia microphylla* (Robin, 1877)**

Nattress (2006): new to Yorkshire. Nattress (2012a) [1977].

***Montesauria cylindrica* (Robin, 1877)**

Nattress (1995): new to Yorkshire. Nattress (2012a) [(Robin, 1868)]: new UK host record (Rook).

***Proctophyllodes clavatus* Fritsch, 1961**

Nattress (2012a): new to UK.

Remarks. Nattress (2012a) states that this species was first described from the Barbed Warbler *Sylvia nisoria* in Bulgaria but he was referring to the material upon which Atyeo & Braasch (1966) based their redescription. Fritsch (1961) collected his species from the Lesser Whitethroat *S. curruca* and Short-toed Treecreeper *Certhia brachydactyla* in Germany.

***Proctophyllodes corvorum* Vitzthum, 1922**

Nattress (1995): new to Yorkshire. Nattress (2012a).

***Proctophyllodes doleophyes* Gaud, 1957**

Nattress (2006): new to UK.

***Proctophyllodes glandarinus* (Koch, 1841)**

Nattress (1995): new to Yorkshire. Nattress (2019): new UK host record (Crossbill *Loxia curvirostra*).

Remarks. Nattress (2019), along with other authors such as Atyeo & Braasch (1966) and Mironov (2012), gives the type host of *P. glandarinus* as the Jay *Garrulus glandarius*. Koch (1841), however, describes his species as coming from the 'Nussheher', which was given as a synonym of 'Tannenheher', another German common name for the Nutcracker *Nucifraga caryocatactes* (Brockhaus, 1894, 1895).

***Proctophyllodes musicus* Vitzthum, 1922**

Nattress (1995): new to Yorkshire. Nattress (2012a).

***Proctophyllodes picae* (Koch, 1840)**

Nattress (1995): new to Yorkshire. Nattress (2012a) [(1841); *picea*].

***Proctophyllodes pinnatus* (Nitzsch, 1818)**

Nattress (2006): new to Yorkshire. Nattress (2012a): new UK host record (Goldfinch).

***Proctophyllodes reguli* Gaud, 1957**

Nattress (2006): new to Yorkshire.

Remarks. Nattress (2006) states that this species was first described from the Goldcrest *Regulus regulus* but the type host is the Firecrest *Regulus ignicapillus* (Gaud, 1957).

***Proctophyllodes rubeculinus* (Koch, 1841)**

Nattress (2006): new to Yorkshire; suspected new world host record (Treecreeper *Certhia familiaris*).

***Proctophyllodes schoenicli* Atyeo & Braasch, 1966**

Nattress (2006) [*schoeniculi*]: new to Yorkshire. Nattress (2012a) [*scheonicli*].

***Proctophyllodes scolopacinus* (Koch, 1842)**

Nattress (2012a): new to Yorkshire.

***Proctophyllodes stylifer* (Buchholz, 1869)**

Nattress (1995): new to Yorkshire; new UK host record (Great tit *Parus major*). Nattress (2006): new UK host record (Wren *Troglodytes troglodytes*).

Remarks. Atyeo & Braasch (1966) doubted whether *T. europaea* (= *T. troglodytes*) (family Troglodytidae) is a normal host of this species as modern records are mostly from members of the family Paridae.

***Proctophyllodes sylviae* Gaud, 1957**

Nattress (2012a): new to UK.

***Proctophyllodes tenericaulus* Atyeo & Vassilev, 1964 [Vasilev]**

Nattress (2019) [*tenericaulis*]: new to UK; suspected new world host record (Robin *Erithacus* [*Erithathacus*] *rubecula*).

***Proctophyllodes troncatus* Robin, 1877**

Nattress (1995): new to Yorkshire. Nattress (2006). Nattress (2012a) [(Robin, 1868)].

Nattress (2019): new UK host record (Tree Sparrow *Passer montanus*).

***Proctophyllodes vitzthumi* Fritsch, 1961**

Nattress (2019) [*vitzthumi*]: new to UK.

Remarks. Nattress (2019) stated that this species was first recorded from a Nuthatch *Sitta europaea* in Czechoslovakia and France but he was referring to the material examined by Atyeo & Braasch (1966) during their study of *P. vitzthumi*. They based their redescription on the specimens from France. The type host is the most widespread of the western subspecies of Nuthatch *S. e. caesia* collected in Germany (Fritsch, 1961).

***Proctophyllodes weigoldi* Vitzthum, 1922**

Nattress (2012a): new to UK.

***Pterodectes rutilus* (Robin, 1877)**

Nattress (2019) [Robin & Megnin, 1877]: new to Yorkshire; new UK host record (Swallow *Hirundo rustica*).

Family Psoroptoididae [Psoropoididae]

Mesalgoides megnini (Oudemans, 1937)

Nattress (2006) [*Mesalgoides oscinum* Koch, 1840]: new to Yorkshire.

Remarks. Nattress (2012a) highlighted the long-standing confusion over the status of the species name *Mesalgoides oscinum* [*oscinum*], as used in Nattress (2006). The situation was discussed in detail by Mironov (2004).

Picalgoides picimajoris (Buchholz, 1869)

Nattress (2006) [*Mesalgoides*; Černý, 1974]: new to Yorkshire.

Remarks. The subgenus *Mesalgoides* (*Picalgoides*) Černý, 1974 was raised to generic rank by Mironov (2004). Nattress (2006) stated this species was first described from the Green Woodpecker *Picus viridis*, but the type host is given as the Great Spotted Woodpecker *Picus major* (= *Dendrocopos major*) in Buchholz (1869).

Family Pteronyssidae

Neopteronyssus pici (Scopoli, 1763)

Nattress (2006): new to Yorkshire; new UK host record (Great Spotted Woodpecker).

Remarks. Radford (1939) recorded this species as *Pteronyssus gracilis* (Nitzsch, 1818) (synonymy by Faccini & Atyeo (1981)) from Pied Woodpecker. Although this common name may be applied to *D. major*, Radford gave both Pied Woodpecker and Great Spotted Woodpecker as hosts for another mite species in the same publication. As he did not give Latin names as clarification, the new UK host association is attributed to Nattress (2006).

Pteronyssoides parinus (Koch, 1840)

Nattress (2006) [(Koch, 1840)]: new to Yorkshire. Nattress (2019) [Koch, 1840]: suspected new world host record (Tree Sparrow).

Pteronyssoides striatus (Robin, 1877)

Nattress (2006): new to Yorkshire. Nattress (2012a).

Pteronyssus robini (Faccini & Atyeo, 1981)

Nattress (2012a): new to UK.

Scutulanysus hirundicola (Mironov, 1985)

Nattress (2006) [*Scutulanysus ottuki* (Chirov & Mironov, 1983)]: new to UK. Nattress (2012a).

Remarks. As well as recording a new Yorkshire locality, Nattress (2012a) revised his 2006 record of *S. ottuki* to *S. hirundicola*.

Scutulanysus obscurus (Berlese, 1884)

Nattress (1995) [Pterolichidae; *Pteronyssoides*]: new to Yorkshire. Nattress (2006).

Scutulanysus ottuki (Chirov & Mironov, 1983)

Nattress (2012a): new to UK.

Remark. Nattress (2012a) also revised his record of *S. ottuki* published in 2006 to *S. hirundicola*.

Sturnotrogus truncatus (Trouessart, 1885)

Nattress (1995) [Pterolichidae; *Pteronyssoides*]: new to Yorkshire.

Remark. Mironov (1989) designated this species the type of his new genus *Sturnotrogus*.

Family Trouessartiidae

Trouessartia appendiculata (Berlese, 1884[1886])

Nattress (2012a).

Trouessartia corvina (Koch, 1841)

Nattress (2012a): new to Yorkshire. (See Figure 1 below)

Trouessartia crucifera Gaud, 1957

Nattress (2012a): new to UK.

***Trouessartia inexpectata* Gaud, 1957**

Nattress (2006): new to UK; suspected new world host record (Goldcrest). Nattress (2012a) [*inexpectata*].

Remarks. The host in both Nattress records was Goldcrest, which is a new association for this species. However, Mironov (1983) described his new species *T. reguli* as being closest morphologically to *T. inexpectata*. The former has only been collected from Goldcrests and it is possible, therefore, that the UK material belongs to this species.

***Trouessartia microcaudata* Mironov, 1983**

Nattress (2012a): new to UK.

***Trouessartia rosterii* (Berlese, 1886)**

Nattress (1995) [Alloptidae]: new to Yorkshire.

***Trouessartia rubecula* Jabłońska, 1968**

Nattress (2006): new to UK.

Family Xolalgidae

***Glaucalges tytonis* Dabert, Ehrnsberger & Dabert, 2008**

Nattress (2019): new to UK. (See Figure 2 below)

Remarks. This species was first described from specimens collected in Germany and not Poland as stated in Nattress (2019).



Figure 1 (see p175). *Trouessartia corvina*



Figure 2. *Glaucalges tytonis*

Both of the above feather mites were first recorded in the UK by Barry Nattress. Note that the body length of *T. corvina* as measured between the arrow points is 0.37mm. The body length of *G. tytonis* is 0.35mm.

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Superfamily Pterolichoidea

Family Falculiferidae

***Falculifer rostratus* (Buchholz, 1869)**

Nattress (1995) [Dermoglyphidae]: new to Yorkshire; new UK host record (Collared Dove).

Nattress (2012a): new UK host records (Feral Rock Dove, Wood Pigeon).

***Pterophagus strictus* Mégnin, 1877**

Nattress (2012a) [Robin & Megnin 1877]: new to Yorkshire.

Family Freyanidae

***Freyana anatina* (Koch, 1844)**

Nattress (2012a): new to Yorkshire; new UK host record (Common Teal *Anas crecca*).

Family Gabuciniidae

***Gabucinia delibata* (Robin, 1877)**

Nattress (1995) [Pterolichidae]: new to Yorkshire. Nattress (2012a) [Gabucinidae].

***Hieracolichus nisi* (Canestrini, 1878)**

Nattress (2006): new to Yorkshire; new UK host record (Sparrowhawk *Accipiter nisus*).

Family Kramerellidae

***Dermonoton sclerourus* Gaud, 1980**

Nattress (2019): new to UK.

***Kramerella aluconis* (Lönnfors, 1937)**

Nattress (2006): new to UK.

***Petitota aluconis* (Buchholz, 1869)**

Nattress (2012a): new to Yorkshire; new UK host record (Tawny Owl *Strix aluco*).

Family Pterolichidae

***Pseudolichus phasianii* Mironov, 1997**

Nattress (2012a): new to UK.

***Pseudolichus solutocurtus* (Dubinin, 1956)**

Nattress (2012a) [*solutocurtis*]: new to Yorkshire.

Remarks. See those for *Pterolichus obtusus*.

***Pterolichus obtusus* Robin, 1877**

Nattress (2006) [*obtusas*]: new to Yorkshire.

Remarks. Nattress (2006) stated that *P. obtusus* was first described from the Red-legged Partridge but this was only one of a number of birds of the family Phasianidae named as hosts by Robin (1877). While clarifying the identity of *P. obtusus*, Atyeo & Gaud (1992) concluded that its hosts are normally wild and domesticated chickens, whereas those of the morphologically similar *Pseudolichus solutocurtus* are normally partridges. The specimens Nattress (2006) collected were removed from Red-legged and Grey Partridges and so it is possible that his specimens are *P. solutocurtus*. Nattress (2012a) cited Atyeo & Gaud (1992) in his record of *P. solutocurtus*, but did not relate their findings to his material of *P. obtusus*.

***Xoloptes blaszaki* Dabert, Nattress [sic] & Dabert, 2008**

Dabert *et al.* (2008): description of species new to science collected from Red-legged Partridge in Yorkshire. Nattress 2012a: repeats locality and host data given in Dabert *et al.* (2008).

QUILL MITES (Prostigmata)

Superfamily Cheyletoidea

Family Syringophilidae

Aulobia cardueli Skoracki, Hendricks & Spicer, 2010

Nattress (2012b): new to UK.

Betasyringophiloidus schoeniclus (Skoracki, 2002)

Nattress (2019): new to UK.

Bubophilus aluconis Nattress & Skoracki, 2009

Nattress & Skoracki (2009): description of species new to science collected from Tawny Owl in Yorkshire. Nattress (2011). Nattress (2012b): repeats locality and host data given in Nattress & Skoracki (2009).

Meitingsunes columbiclus Skoracki, 2011

Nattress (2012b): new to UK.

Neosyringophilopsis aegithali (Bochkov, Mironov & Skoracki, 2001)

Nattress & Skoracki (2009): new to UK. Nattress (2012b).

Neosyringophilopsis troglodytis (Fritsch, 1958)

Nattress & Skoracki (2007): new to UK. Nattress (2012b): specimen, locality and host data given are same as in Nattress & Skoracki (2007).

Peristerophila columbae (Hirst, 1920)

Nattress & Skoracki (2009): new to UK. Nattress (2012b): specimen, locality and host data given are same as in Nattress & Skoracki (2009).

Picobia dryobatis (Fritsch, 1958)

Nattress & Skoracki (2009): new to UK. Nattress (2012b) [*dryobates*]: specimen, locality and host data given are same as in Nattress & Skoracki (2009).

Syringophiloidus glandarii (Fritsch, 1958)

Nattress (2019) [*glandari*]: new to UK.

Syringophiloidus klimovi Skoracki & Bochkov, 2010

Nattress & Skoracki (2007) [*Syringophiloidus minor* Berlese, 1887]: new to UK; synonymy by Skoracki (2011). Nattress (2012b): specimen, locality and host data given are same as in Nattress & Skoracki (2007), but Skoracki's synonymy of their material of *S. minor* was not referred to.

Syringophiloidus minor Berlese, 1887

Nattress (2012b): new to Yorkshire.

Syringophiloidus montanus Skoracki, 2002

Nattress (2019): new to UK.

Syringophilopsis fringillae (Fritsch, 1958)

Nattress & Skoracki (2009) [*fringilla*]: new to Yorkshire. Nattress (2012b) [*fringilla*]: specimen, locality and host data given in Nattress & Skoracki (2009) are repeated and a new record added.

Syringophilopsis garrulus Skoracki & Dabert, 2002

Nattress (2019): new to UK.

Syringophilopsis hirundus Skoracki, 2004

Nattress & Skoracki (2007): new to UK. Nattress (2012b): specimen and host data same as that given in Nattress & Skoracki (2007).

Syringophilopsis kirgizorum Bochkov, Mironov & Kravtsova, 2000

Nattress & Skoracki (2007): new to UK. Nattress (2011): new world host record (Tawny Owl). Nattress (2012b).

Remarks. The other hosts of this mite belong to the passeriform family Fringillidae. Nattress (2011, 2012b) regarded its presence on the Tawny Owl (Strigiformes: Strigidae) a result of horizontal

transmission between prey and predator.

Syringophilus bipectinatus Heller, 1880

Nattress (2012b): new to UK.

Torotroglia cardueli Bochkov & Mironov, 1999

Nattress (2012b): new to UK.

Torotroglia modularis Nattress & Skoracki, 2007

Nattress & Skoracki (2007): description of species new to science collected from Dunnock in Yorkshire. Nattress (2012b).

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Biological records of Otters from taxidermy specimens and hunting trophies

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Introduction

Taxidermy specimens and hunting trophies encountered in auction houses, antique shops and at antiques fayres can potentially provide a source of natural history records and biological data. As an experiment and using the European Otter *Lutra lutra* L. as a target species, this project set out to investigate the value of this data source.

Being sporting mementos, these specimens are usually accompanied by information on provenance, date of capture, size and weight, also the name or initials of the Otter Hunt or individual captor. Research into the history, art and craft of the taxidermist is often made possible by the presence of printed paper taxidermist's trade labels, usually attached to the reverse of trophy shields or the backs of glazed cases. The taxidermist's name or insignia can also be found on plastic (ivorine) labels affixed to the fronts of the shields or secreted amongst faux landscaping within glazed display cases.

Methods

For the period 2010 to October 2019, records of Otter specimens and associated materials handled by Tennants Auctioneers, Leyburn, North Yorkshire, were interrogated via their expertly assembled and lavishly produced catalogues and their associated website: (<https://bid.tennants.co.uk/m/lot-details/index/catalog/>).

Results

The ten year sample survey showed that Otter material occurred in 64 lots consisting of 113 separate items as follows: 16 full mounts, 37 mounted heads on shaped oak shields, described variously as masks, head mounts and shoulder mounts, 50 paws, occasionally mounted on oak shields but usually prepared as silver, silver-plated or brass-mounted brooches and 10 tails, referred to in the sporting vernacular as 'rudders' also on silver or silver-plated mounts. Where dates and locations are given, these items have been listed in the gazetteer together with any associated information (see Appendix p185).

Temporal trends

74 of the specimens were accompanied by a precise or approximate year date. These ranged from 1890 to 1963. The temporal patterns of acquisition are shown in Table 1 which reveals relatively few records during and immediately after the world wars of 1914-1918 and 1939-1945, though with a significant peak during the inter-war period, notably during the 1920s and 30s. The relative scarcity of specimens thereafter is a significant feature.

Table 1. Temporal frequency of specimens in five year periods 1890-94 to 1970-74.

1890 -94	-99	-04	-09	-14	-19	-24	-29	-34	-39	-44	-49	-54	-59	-64	-69	-74
2	3	6	5	2	3	9	13	11	10	1	3	1	2	3	0	0

Seasonality

Of the 52 specimens accompanied by monthly dates, Table 2 shows seasonality of hunting activity with trends peaking in May and August and relatively few specimens acquired during the winter months, presumably equating with periods of high water flows.

Table 2. Seasonality of acquisition.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		4	8	13	7	3	9	6	1		1

Biometrics

Though the methods of weighing and measuring the specimens are not described and there are no guarantees of authenticity in claimed weights and lengths, it would seem inappropriate to ignore this data. From the documented specimens the following claimed weights and measurements were abstracted.

Weights are traditionally recorded in lbs but are here converted to kilograms for comparison with modern literature. Records were available for six males, three females and four of no known sex (see Table 3).

Table 3. Individual and mean weights of males, females and specimens of unknown sex.

Male	21lb (9.5kg)	22lb (10.0kg)	22lb (10.0kg)	24lb (10.9kg)	29lb (13.2kg)	29lb (13.2kg)	Mean 11.1kg	n=6
Female	15lb (6.8kg)	16lb (7.3kg)	18lb (8.2kg)				Mean 7.4kg	n=3
Sex not recorded	25lb (11.3kg)	23.5lb (10.7kg)	21½lb (9.7kg)	17lb (7.7kg)			Mean 9.85kg	n=4
Total sample							Mean 9.88kg	n=13

Tail (rudder) lengths were identified for two males, one female and five of unknown sex (see Table 4).

Table 4. Individual and mean tail lengths of males, females and specimens of unknown sex.

Male	340mm	480mm				Mean 410mm	n=2
Female	350mm					Mean 350mm	n=1
Sex not recorded	380mm	390mm	395mm	420mm	440mm	Mean 405mm	n=5
Total sample						Mean 399mm	n=8

Discussion

Temporal frequency. Considering the increase in successful Otter hunting after the First World War as demonstrated by elevated numbers of trophies during the 1920s and 1930s (Table 1), the return to peacetime field sports after the Second World War was evidently not as productive of Otter captures. The relative scarcity of specimens during this period coincides with the major 'crash' in Otter populations in river catchments identified by Chanin & Jefferies (1978).

From the 1950s, persistent chlorinated hydrocarbon pesticides such as DDT, Dieldrin and Aldrin were widely introduced into agriculture and were quickly found to have caused mortality and reproductive failure in predatory birds (Prest & Ratcliffe, 1970). 81% of otter corpses analysed between 1963 and 1973 contained measurable quantities of Dieldrin (Jefferies, French & Stebbings, 1974) and Chanin & Jefferies (1978), analysing hunt records, revealed a sharp decline in hunting success in the late 1950s, coincident with the introduction of Dieldrin in seed dressing and sheep dip. Further, industrial use of polychlorinated biphenyls (PCBs) has led to their widespread dissemination in the environment and the decline in the Swedish Otter population has been attributed to PCB pollutant (Macdonald, 1983). Otter hunting was terminated by agreement in 1978 and under Schedule 5 of the Wildlife and Countryside Act 1981 it became illegal to capture, kill, disturb or injure an Otter (Macdonald, 1983).

The specimens from Onibury dated 18 May 1957, Bowmont Water 19 August 1959, Hadleigh 4 May 1963 and Aldham 22 May 1963 (see Appendix) are potentially of forensic interest since pesticide residues, the agents of the 'crash' as mentioned above, may still be detectable in their pelts.

Tail-length anomaly. In this study the two identified male trophy tails had a mean length of 410mm, shorter than the 419mm mean length of the 1983 to 1990 Otters sampled by Jefferies & Woodroffe (2008). The single identified female trophy tail was 350mm, also shorter than the 381mm mean of Jefferies & Woodroffe (2008). Whether the tails were measured while attached to the body, in which case the data would be admissible, measured as objects after removal or indeed after being prepared as trophy objects is not clear. Therefore conclusions cannot be drawn from the apparent tail-length anomaly.

Body weight, trophy-hunter bias and an apparent post 'Otter-crash' reduction in physical stature. Mean weights revealed in this study (11.1kg for known males and 7.4kg for females) are higher than those in current UK literature but the results may suffer from low sample size or may represent a bias of the sporting trophy hunter *i.e.* a bias towards the larger, more noteworthy specimens being selected for preservation. To investigate this bias and using purely 19th century (1829-1871) records abstracted for this study from the hunting diaries of Squire Lomax's Otterhounds (Trappes-Lomax & Trappes-Lomax, 1910), mean weights were calculated at 10.0kg (n 74) for males and 7.0kg (n 49) for females. Based at Clayton Hall, Great Harwood, Lancashire, Squire Lomax's hounds hunted by invitation extensively across mainland Britain and Ireland, though their home territory, from which data used in this study are derived, was primarily the spate rivers of the Pennines and the Northwest. Since these figures are probably more representative of Otters as they are encountered in the field, the elevated weights of the auction room cohort (see Table 5, p184) may be an indication that the specimens selected to enter the taxidermy trade may exhibit 'trophy hunter' bias.

Table 5. Mean body weights of Otters and male numerical bias from four time periods from the 19th century to 1990

Male	10.0kg (n=74)	11.1kg (n=6)	10.1kg (n=433)	8.7kg (n=21)
Female	7.0kg (n=49)	(7.5kg) (n=3)	7.0kg (n=220)	6.0kg (n=23)
Male bias	60.2%	66.7%	66.3%	47.7%
Time period & sources	1829 to 1871 (Trappes-Lomax & Trappes-Lomax, 1910)	Hunting trophies 1890 to 1963 (this study)	1900 to 1980s (Chanin, 1985)	1983 to 1990 (Jefferies & Woodroffe, 2008)

A purely 20th century data sample collected up to the 1980s across Great Britain and Ireland (Chanin, 1985) shows mean weights calculated at 10.1kg for males (n=433) and 7.0kg for females (n=220) which are very similar to the 19th century Lomax data suggesting that the stature of British Otters had remained unchanged. However, a post 'Otter crash' generation of British Otters sampled between 1983 and 1990 suggests a smaller body mass, mean weights calculated at 8.75kg (n 21) for males and 6.07kg (n 23) for females (Jefferies & Woodroffe 2008) (see Table 5).

Although it appeared in Table 5 that the post 'Otter crash' population had reduced to a lighter weight stature than their pre-organochlorine ancestors, it is likely this may be a sampling effect rather than a by-product of a polluted environment and a contaminated food chain. With hunting having ceased by 1978 the corpse samples available to Jefferies & Woodroffe (2008) would have consisted of casually encountered casualties of road traffic accidents, flash flood and fish trap drownings. It is therefore likely they included rather more immature specimens than would have been the case with targeted hunting, thus reducing the mean weight calculations.

Male bias. Male bias in sporting trophies is well known where the target quarry is strongly sexually dimorphic, most frequently in those ungulate taxa which develop large sets of antlers or horns or in big cats where adult male stature is notably greater (Beer, 2019). However, in quarry where sexual dimorphism is less externally obvious the bias is less but still exists, managed by the expertise of hunt masters in the interests of maintaining a sustainable breeding population. Table 5 shows that the three Otter hunting-based sources all revealed a male bias of above 60%, peaking at 66.7% with the taxidermy trophies, whereas males only represented 47.7% of the random casualties sampled by Jefferies & Woodroffe (2008).

Acknowledgements

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Appendix 1: Gazetteer of localised Otter records (in chronological order)

England

Bedfordshire:

Great Barford (TL1254) 20 March 1946. Buckingham Otter Hounds. Mounted pup head on oak shield. Taxidermy: Peter Spicer & Sons, Leamington.

Buckinghamshire:

Padbury Brook, Three Bridges Mill, Twyford (SP62) 29 March 1930. Buckingham Otter Hounds. Head mounted on oak shield. Taxidermy: Peter Spicer & Sons, Leamington.

Caldicote Mill. 18 April 1931. 22lb Male. Buckingham Otter Hounds. Tail mounted on engraved silver collar.

River Great Ouse, Little Linford Bridges (SP84) 7 May 1932. 22lb male. Buckingham Otter Hounds. Head mounted on oak shield. Taxidermy: Peter Spicer & Sons, Leamington.

Cheshire:

Burton, Tarporley (SJ37) 1939. Border Counties Otter Hounds. Silver-plated tail mount.

River Weaver 12 June 1948. Border Counties Otter Hounds. Head mounted on oak shield. Taxidermist: Bill Cox, 36 Manchester St. Liverpool.

Cornwall:

Hessenford, (SX35) 1934. Dartmoor Otter Hounds. Head mounted on oak shield. Taxidermy: Peter Spicer & Sons Leamington.

Cumbria:

River Greta, Wallthwaite May 1925. Pair of paw brooches mounted on engraved silver clasps.

River Derwent, Borrowdale 3 Aug. 1935. Head mounted on oak shield with attached chrome-mounted tail 44cm long. Taxidermy: In the manner of Peter Spicer & Sons, Leamington.

Devon:

Widecombe Island, Holne (TQ13) 5 Oct 1921. Dartmoor Otter Hounds. Paw brooch.

River Otter, Honiton (ST10) 25 May 1926. Culmstock Otter Hounds by M.G.L. Mounted head on oak shield. Taxidermy: Rowland Ward, Piccadilly, London.

St Pierre 10 May 1904. C.S. Otter Hounds. Head mounted on oak shield. Taxidermy: W.K. Pethick 26 East Reach, Taunton.

Essex:

Roman River, Aldham (TL9125) 22 May 1963. 18lb Female. Eastern Counties Otter Hounds. Head mounted on oak shield. Taxidermist: Edward Gerrard, 61 College Road, Camden Town, London.

Herefordshire:

River Monnow, Kentchurch (SO42) 9 May 1936. Hawkstone Otter Hounds, M.Tipper. Silver-mounted tail 39.5cm long.

Upton-on-Severn, Malverns (SO84) 25 Sept 1936. Wye Valley Otter Hounds. Tail mounted with chrome collar.

Lancashire:

River Keer, Carpenwray Park, Carnforth (SD57) 3 Oct 1932. Kendal and District Otter Hounds.

Head mounted on oak shield.

River Hodder 3 Sept 1934. Head mounted on oak shield with attached silver-mounted tail 38cm long. Taxidermy: Peter Spicer & Sons, Leamington.

Middlesex:

Temsford 1943. Buckingham Otter Hounds. Head mounted on oak shield. Taxidermy: Rowland Ward 166 Piccadilly, London.

Norfolk:

Hillington, King's Lynn (TF72) 27 June 1908. 17lb. Eastern Counties Otter Hounds. Head mounted on oak shield. Taxidermy: William Farren, Naturalist, 76 Regent Street, Cambridge.

Northamptonshire:

River Tove, Grafton Regis, Northamptonshire (SP74) *ca.* 1927. Cub head mounted on oak shield. Taxidermy: In the manner of Peter Spicer & Sons, Leamington.

Kings Cliff Bridge (TL0097) 17 April 1937. Buckingham Otter Hounds. Silver mounted Tail 42cm. Taxidermy: William Farren, Naturalist, 76 Regent Street, Cambridge.

Northumberland:

River Dry Burn, Great Swinburn (NY97) 15 Aug 1935. Head and paw mounted on wooden shield. Taxidermy: Peter Spicer & Sons, Leamington.

Bowmont Water (NT93) 19 Aug 1959. 24lb male. North Yorkshire Otter Hounds. Head mounted on oak shield. Taxidermy: Edward Gerrard, 61 College Road, Camden Town, London.

Shropshire:

River Onny, Onibury (SO4579) 18 May 1957. Hawkstone Otter Hounds. Head mounted on oak shield. Taxidermy: Army and Navy Stores.

Somerset:

Stogumber (ST03) 13 April 1923. 23½lbs. Culmstock Otter Hounds. Mounted head on oak shield.

Suffolk:

River Brett, Hadleigh (TQ8187) 4 May 1963. 29lb Male. Eastern Counties Otter Hounds. Head mounted on oak shield and 34cm tail. Taxidermist: Edward Gerrard, 61 College Road, Camden Town, London.

Surrey:

North River, Ockley 15 lb female 18 April 1925. C.O.H. Mounted head on oak shield and brass-mounted tail rudder measuring 35cm. Taxidermist: Rowland Ward, 166 Piccadilly, London.

Sussex:

Bines Bridge (TQ1817) 17 May 1915. Courtney Tracey Otter Hounds. Silver-plated paw brooch.

Yorkshire region:

River Swale, Temple Grounds, Richmond (NZ1600) *ca.* 1900. Head mounted on oak shield.

Taxidermy: Edward Allen, 6 Fossgate, York.

River Tees, Dinsdale Bridge, Neasham, North Yorkshire (NZ31) 21lb male. 19 Sept. 1933. Northern Counties Otter Hounds. Silver-plated paw brooch.

River Esk, North Yorkshire 1 June 1935. 16lb female. S. & Y. Otter Hounds. Paw brooch.

Isle Beck (off Cod Beck), Thirsk (SE47) 30 Sept 1930. Northern Counties Otter Hounds. Head mounted on oak shield. Taxidermy: Peter Spicer & Sons, Leamington.

Unknown:

Malton Farm 4 May 1936. 25lb. Head mounted on oak shield. Taxidermy: William Warren, 76 Regent Street, Cambridge.

Scotland – Dumfries and Galloway

River Fleet, Dumfries and Galloway (NX55) 31 Aug 1915. Dumfries Otter Hounds. Head mounted on oak shield. Taxidermy: Peter Spicer & Sons, Leamington.

Gillhall Burn (River Annan), Murraythwaite, Dumfries and Galloway (NY17) 25 July 1919. Dumfries Otter Hounds. Head mounted on oak shield.

Wales

Pontulas 25 May 1902. Hawkstone Otter Hounds. Paw brooch.

River Usk, Bryngwyn, Monmouthshire (SO3507) 13 June 1921. 29lb male. Head mounted on oak shield and attached tail measuring 48cm. Taxidermy: Rowland Ward, Piccadilly, London.

Alyn, Denbighshire (SJ25) 2 Aug 1924. Border Counties Otter Hounds. Paw brooch.

River Dee, North Wales 1 Aug 1925. Hawkstone Otter Hounds. Otter Paw brooch with engraved inscription. Taxidermy: Rowland Ward Ltd.

River Alyn, Gresford, Denbighshire (SJ35) 29 Aug 1925. Border Counties Otter Hounds. Head and paw mounted on oak shield. Taxidermy: Edward Gerrard, 61 College Road, Camden Town, London.

Wye Valley 21 Sept. 1931. Wye Valley Otter Hounds. Mounted head on oak shield and attached tail 39cm long. Taxidermy: J.W.Quatermain, Naturalist, Taxidermist and Furrier, West Malvern. Silver mount for tail by Allen & Co., Birmingham.

Conway, North Wales 5 Sept 1935. Border Counties Otter Hounds. Head mounted on oak shield. Taxidermy: E.F. Spicer & Sons 58 Suffolk Street, Birmingham.

Bechain Brook, Brechain, Powys (SO1294) 2 July 1947. Border Counties Otter Hounds. Head mounted on oak shield. Taxidermist: Bill Cox, 36 Manchester St. Liverpool.

River Trothy, Dingestow, Monmouthshire (SO4510) 2 May 1950. Border Counties Otter Hounds. Head mounted on oak shield. Taxidermist: Peter Spicer & Sons, Leamington.

Ireland

Kildinan, County Cork 6 June 1908. 21½ lb. Marquess Conyngham's Otter Hounds. Paw brooch mounted with silver collar.

River Fane, Inniskeen, County Monaghan, Ireland 22 April 1911. Paw brooch.

Carlanstown, County Meath 1914. Paw brooch. Taxidermy: Rowland Ward 166 Piccadilly, London.

The state of the Watsonian Yorkshire database for the aculeate Hymenoptera, Part 3 – the twentieth and twenty-first centuries from the 1970s until 2018

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Introduction

From the 1970s until 2018, 69 new aculeate species (listed in the Appendix (p194) were recorded in Watsonian Yorkshire. Fig. 1 (p188) shows the number of first records of all species per decade and Fig. 2 the number of first records of the Chrysoidea, Vespoidea and Apoidea (Wasps and Bees). Fig. 1 shows a relatively constant number of first records (9-14) per decade except for the 1980s when there was an increased number (23).

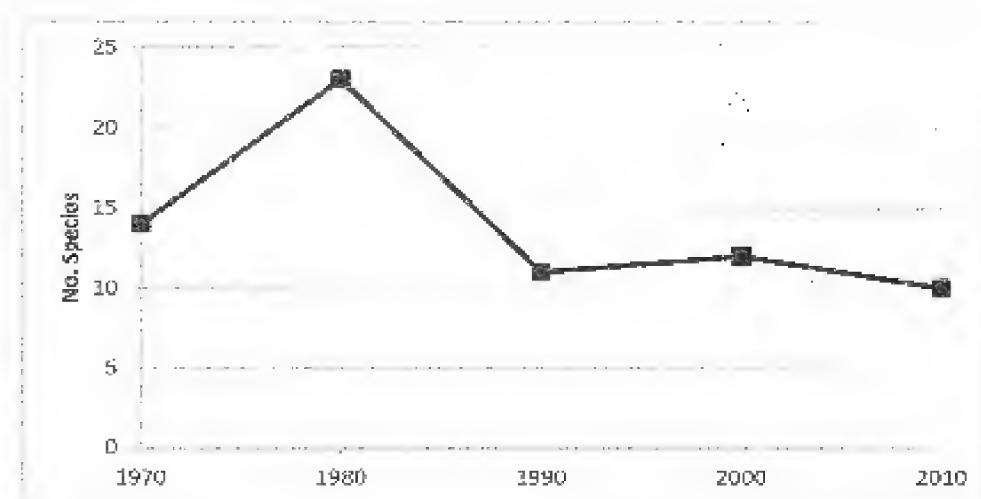


Fig. 1. The number of first records per decade from 1970s until 2018.

Fig. 2 shows a relatively constant number of first records for the Vespoidea and Apoidea-Wasps with an increase during the 1980s for the Chrysidoidea and Apoidea-Bees and then the Chrysidoidea greatly deceasing from the 1980s.

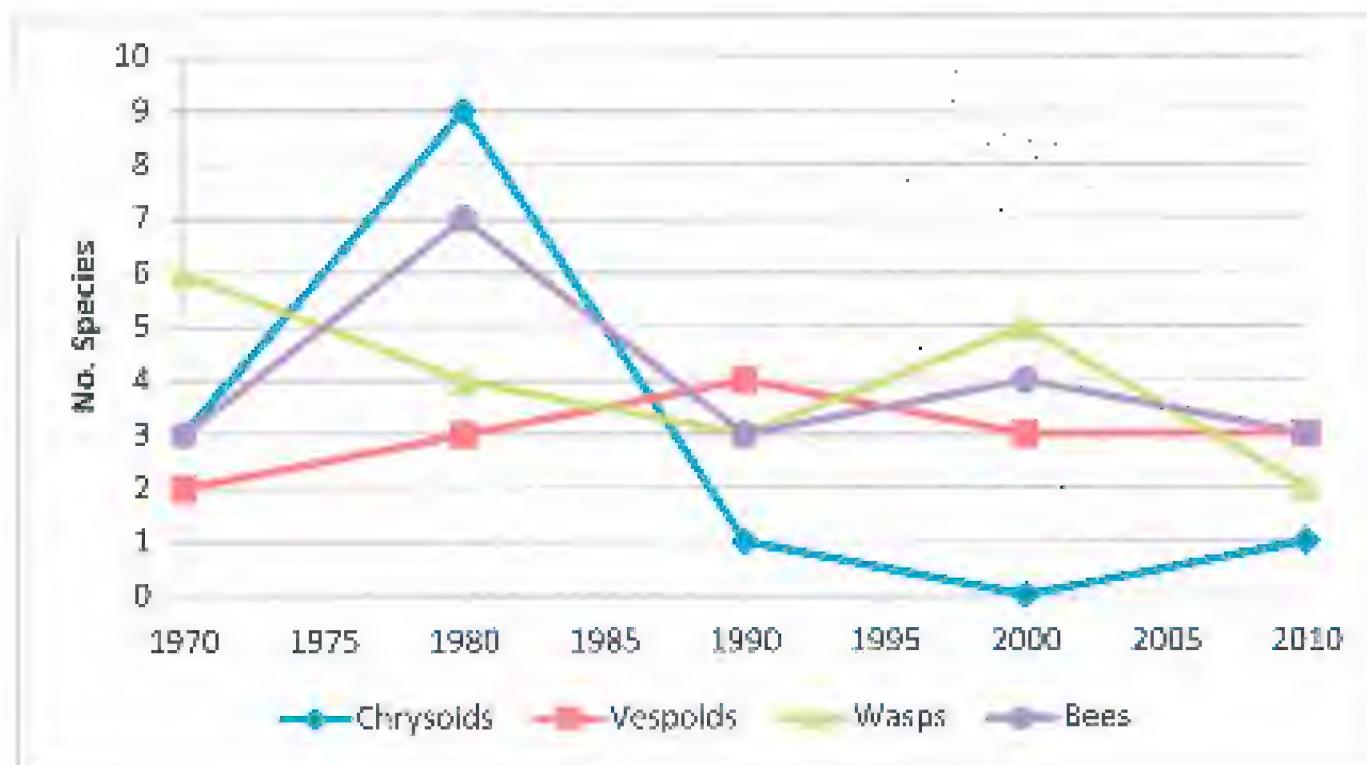


Fig. 2. The number of first records of Chrysidoidea, Vespoidea and Apoidea (Wasps & Bees) per decade from 1970s until 2018.

This paper will examine species recording from 1970s until 2018 and for the whole database consider species with one, two, three or 4-10 records, species extinction and species conservation.

The recording of new species

The database shows that 22 individuals recorded new species. Most of them recorded less than three species, usually only one. The foremost recorders were M.E. Archer, J.T. Burn and W.A. Ely. These three recorders had access to recent keys to species with which they learnt how to distinguish species and often acted as determiners or confirmers for other recorders. Examples of these new keys for the Chrysidoidea were Perkins (1976) and Richards (1939)

and for the Dryinidae, Embolemidae and Bethylidae (DEBs) circulating keys based on Olmi (1994) and Morgan (1984) for the Chrysidae. Authors of keys for the Vespoidea were Bolton & Collingwood (1973), for the Formicidae Skinner & Allen (1996) and for the Pompilidae Day (1988). Richards (1980) and Yeo & Corbett (1996) dealt with the solitary wasps (Vespoidea & Apoidea-Wasps). The Apoidea-Bees had to rely on Saunders (1896) and papers by Perkins (1919, 1922, 1925) until the circulating keys of Else became available which were later published (Else & Edwards, 2018). A handbook to the Apoidea-Bees was also published (Falk & Lewington, 2015). Keys to the Bumblebees were produced by Alford (1975).

Archer was the Yorkshire Naturalists' Union (YNU) recorder for this period and he produced three publications to encourage the study of the Yorkshire aculeates. Archer (1998) wrote a Red Data Book giving information on the scarce species in a national context and the scarce species in a Yorkshire context, including Species Action Plans of seven species. Archer (2002) reviewed the aculeates of Yorkshire with 10km distribution maps for each species. Archer (2011) mainly outlined the life stories of important persons involved in the recording of aculeates.

Concerning the Chrysoidea Burn and Ely, particularly Burn during the 1980s, were the foremost recorders of new species. Concerning the Vespoidea Archer, Burn and J.D. Coldwell were the foremost recorders and for the Apoidea-Wasps and Bees Archer and Burn, particularly of bees during the 1980s, were the foremost recorders.

Name changes and species splits also occurred. Else *et al.* (2016) showed that *Hylaeus signatus* Panzer was a misidentification for *H. incongruus* and *Osmia rufa* (Linnaeus) was a misidentification for *Osmia bicornis*. Vikberg (2000) split the species *Spilomena curruca* into *S. curruca* s.s. and *S. differens*.

Considerations of the entire database

Species extinction

Archer (2014) suggested that 23 species had become extinct and that six species were last recorded so long ago (1850-1948) that they could be considered extinct. Table 2 (p190) shows the once-recorded species with year date of record, site where recorded and the species that are considered extinct. From Table 2 *Pemphredon austriaca* and *Andrea falsifica* are additions to Archer (2014). Table 3 (p191) shows the species with two and three records, with first and last recording years. *Lasius fuliginosus* and *Podalonia affinis* (Table 3) were also considered extinct in Archer (2014). *Andrena thoracica*, suggested as extinct (Archer, 2014), was found during 2017 so is no longer extinct. Nine considered extinct species, including *B. subterraneus*, had between 4-10 records. The other *Bombus* species considered extinct have more than 10 records. In summary, eleven species recorded 1-3 times, nine species recorded between 4-10 times and six *Bombus* species recorded more than ten times are considered extinct, giving a total 26 species (7.6% of Yorkshire list).

The reason for considering a species extinct is the long period of time since it was last recorded. The exception is the recently recorded *Podalonia affinis* (1973-1974). This extinction was a consequence of its nesting site being restricted to one site in a working sand quarry when the nesting site was destroyed by the removal of sand.

Suggesting that a species is extinct may not eventually prove to be true as species can appear again after a long interval of years (Archer, 2014). Thus *Formicoxenus nitidulus* was recorded during 2011 after an interval of 80 years and *Lasioglossum lativentre* was recorded again during 2006 also after an interval of 80 years.

Rare species with one, two, three or 4-10 records

Table 1 shows the number of species of the Chrysoidea, Vespoidea and Apoidea (Wasps & Bees) which have been recorded 1-3 and 4-10 times for three yearly periods. Table 2 shows the 22 species with one record and Table 3 shows six species with two and the eleven species with three records. There were 39 species with 1-3 records and 45 with 4-10 records, a total of 84 species (24.4% of the Yorkshire list). Those recorded 1-3 times are mainly from the 1970s-2018 except for the Bees from the 1900s-1960s. Species recorded 4-10 times show an increase in numbers from the 19th century to the 1970s-2018.

The continued increase of aculeates recorded 1-10 times from the 1970s onwards was partly due to recent publications and circulating new keys used by Archer, Burn, Ely and Coldwell who also had transport to explore the whole of Yorkshire, so becoming aware of the increasing northwards spread of southern species (e.g. *Tiphia femorata*, *T. minuta*, *Cerceris arenaria*, *C. rybyensis*, *Philanthus triangulum*, *Stigmus pendulus*, *Bombus hypnorum*, *Colletes hederae*, *Nomada flava*, *Stelis punctulatissima*).

Table 1. The number of species which have been recorded 1-3 and 4-10 times in the Chrysoidea, Vespoidea and Apoidea (Wasps & Bees) in three yearly periods.

Year period	Chrysid.	Vespoid.	Wasps	Bees	Total
1-3 records					
19th Century	1	1	1	1	4
1900s-1960s	2	1	1	8	12
1970s-2018	5	6	7	5	23
4-10 records					
19th Century	1	5	0	4	10
1900s-1960s	4	4	4	4	16
1970s-2018	4	4	4	7	19

Table 2. Species with one record arranged in order of discovery and with site where recorded. Species considered extinct marked (E).

<i>Cleptes nitidulus</i>	1850	Yarm
<i>Ectemnius lituratus</i> (Panzer)	1852	Nr. Wakefield (E)
<i>Pemphredon austriaca</i> (Kohl)	1903	Richmond (E)
<i>Lasioglossum parvulum</i> (Schenck)	1907	Calverley, nr. Leeds (E)
<i>Andrena falsifica</i> Perkins	1924	Whitby (E)
<i>Lasius mixtus</i> Nylander)	1937	Robin Hood's Bay (E)
<i>Chrysis mediata</i> Linsenmaier	1948	Spurn Point (E)
<i>Sphecodes miniatus</i> von Hagens	1951	Spurn Point (E)
<i>Lasioglossum laevigatum</i> (Kirby)	1966	Denaby Ings (E)

<i>Mimesa bicolor</i> (Jurine)	1979	Allerthorpe Common (E)
<i>Gonatopus distinguendus</i> Kieffer	1986	Rossington Bridge
<i>Lasiglossum pauxillum</i> (Schenck)	1987	Rossington Bridge
<i>Bethylus dendrophilus</i> Richards	1987	Thorne Moor
<i>Priocnemis hyalinatus</i> (Fabricius)	1991	Blaiskey Bank, N. of Helmsley
<i>Passaloecus eremita</i> Kohl	2004	Sand Hutton
<i>Diodontus insidiosus</i> Spooner	2006	Blaxton Common
<i>Lindenius panzeri</i> (Van der Linden)	2010	Blaxton Common
<i>Auplopus carbonarius</i> (Scopoli)	2011	York
<i>Hylaeus pectoralis</i> Förster	2012	Inkle Moor
<i>Chrysis corusca</i> Valkeila	2016	Escricks
<i>Lasius neglectus</i> Van Loom, et al.	2016	Kirk Smeaton
<i>Gorytes laticinctus</i> (Lepeletier)	2017	Acomb, York

Table 3. Species with two or three records with first and last dates of discovery.

2 records		3 records	
<i>Aphelopus nigriceps</i> Kieffer	1988-2004	<i>Omalus aeneus</i> (Fabricius)	1907-1997
<i>Aphelopus quercus</i> Olmi	1987-1992	<i>Caliadurgus fasciatellus</i> (Spinola)	1981-1999
<i>Lasius fulginosus</i> (Latreille) (E)	1852-1928	<i>Priocnemis cordivalvata</i> Haupt	1991-2000
<i>Tiphia femorata</i> Fabricius	2015-2016	<i>Spilomena differens</i> Blüthgen	1994-2013
<i>Lasiglossum latriventre</i> (Schenck)	1927-2006	<i>Podalonia affinis</i> (Kirby) (E)	1973-1974
<i>Andrena synadelpha</i> Perkins	2002-2003	<i>Colletes hederae</i> Schmidt & Westrich	2016-2016
		<i>Andrena labiata</i> Fabricius	1840-1945
		<i>Andrena labialis</i> (Kirby)	1940-1971
		<i>Andrena pilipes</i> Fabricius	1950-1950
		<i>Lasiglossum quadrinotatum</i> (Kirby)	1922-1935
		<i>Bombus cryptarum</i> (Fabricius)	2011-2011

Thirty-seven species, including 27 with 1-10 records, that were not recorded in the 21st century might be considered under threat. Of course, there are reasons why some species have few records. Recently recorded new species are likely to have a low number of records. Of the 21 newly recorded during 2000-2018, 19 species have only 1-10 records while of the remaining two species *Crossocerus distinguendus* has eleven and *Bombus hypnorum* has 184 records. *Bombus cryptarum*, with three records, is considered a crypto-species since it needs an analysis of its genes and shows no distinctive morphological characteristics except possibly in the queens, otherwise it is similar to *B. lucorum* and male *B. magnus*. *B. cryptarum* is probably a common and widespread bumblebee.

Conservation of species

The 64 (not including the species considered extinct) with 1-10 records can be considered as being threatened. What are the most likely factors that threaten species?

1. Solitary species have low reproductive rates of about 8-12 offspring per generation and most species have only one generation per year. The social species have many more offspring per nest but overwintering mortality and developmental failure to reach the reproductive stage can be high.
2. Each species requires nesting resources such as bare or thinly vegetated dry soil or dead wood or plant stems in a sunny sheltered situation, and nearby habitats with prey and flowers for food resources.
3. These resource requirements are mainly associated with the traditional countryside (Kirby, 1995) such as lowland heathlands, open woodlands, sand dunes and calcareous and sandy grasslands, which are in decline.
4. Examples of such habitats are Allerthorpe, Blaxton, Lindrick and Strensall Commons, Spurn Point, Hatfield Moor, Duncombe Park, Keswick Fitts and brownfield sites such as Manvers Colliery and Burton Leonard Lime Quarries.
5. Thus conservation of such habitats would be the best way to conserve aculeates.

Biographical Notes

William (Bill) Andrew Ely as a boy watched animals, especially insects, around his home in Leeds and then kept them in jars in his bedroom. He trained as a teacher at Huddersfield and York and started teaching in Rotherham. Later he became natural history teacher at Manchester Museum and then natural science curator at Rotherham Museum. When he joined the Yorkshire Naturalists' Union he was encouraged by the example of John Flint and Peter Skidmore in his interest of many groups of insects. He later specialized in the difficult group of parasitic Hymenoptera. He established the Rotherham Biological Record Centre.

John Thomas Burn was a miner in Durham before moving to Doncaster. His interest in natural history started when he reared a caterpillar to a moth and took it to Doncaster Museum for identification. Here he was shown the insect collection by Peter Skidmore and was particularly attracted by the aculeate wasps and bees. He took a particular interest in the difficult group of the DEBs (Dryinidae, Embolemidae, Bethylidae) and recorded aculeates at many sites around Doncaster.

Michael Edward Archer when at Wellington School was fascinated by a microscope, which led to the study of many groups of insects but particularly aculeate wasps and bees. When cross-country running during his National Service he found wasp nests and started to study wasp foraging activity and dug up nests for examination. He obtained his degrees at Hull University and became a school teacher until moving to York as a lecturer in biology at York St. John College. He joined the Yorkshire Naturalists' Union and, encouraged by John Flint, eventually became the recorder for wasps, ants and bees and set up an electronic database for their records.

More detailed information about Ely, Burn and Archer are given in Archer (2011),

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Appendix – Species first recorded from the 1970s up to 2018

Chrysidoidea

Aphelopus atratus (Dalman)
A. nigriceps Kieffer
A. quercus Olmi
A. serratus Richards
Anteon arcuatum Kieffer
A. exiguum (Haupt)
A. infectum (Haliday)
A. scapulare (Haliday)
A. tripartitum Kieffer

Bethylus dendrophilus Richards
Chrysis corusca Valkeila
Embolemus ruddii (Westwood)
Gonatopus bicolor (Haliday)
G. distinguendus Kieffer

Vespoidea

Agenioideus cinctellus (Spinola)
Anoplius viaticus (van der Linden)
Auplopus carbonarius (Scopoli)
Caliadurgus fasciatellus (Spinola)
Dipogon subintermedius (Magretti)
Dolichovespula media (Retzius)
D. saxonica (Fabricius)
Formica fusca Linnaeus
Lasius neglectus Van Loon, Boomsma & Andrasfalvy
L. platythorax Seifert
Priocnemis cordivalvata Haupt
P. hyalinata (Fabricius)
P. susterai Haupt
Tiphia femora Fabricius
T. minuta Van der Linden

Apoidea – Wasps

Cerceris arenaria (Linnaeus)
C. rybyensis (Linnaeus)
Crossocerus distinguendus (Morawitz)
C. leucostomus (Linnaeus)
Diodontus insidiosus Spooner
Ectemnius dives (Lepeletier & Brullé)
E. sexcinctus (Fabricius)
Gorytes laticinctus (Lepeletier)
Lindenius panzeri (Van der Linden)
Mimesa bicolor (Jurine)
Passaloecus eremita Kohl
Pemphredon morio Van der Linden
Philanthus triangulum (Fabricius)
Podalonia affinis (Kirby)
Psenulus concolor (Dahlbom)
Spilomena beata Blüthgen
S. differens Blüthgen
Stigmus pendulus Panzer
Tachysphex nitidus (Spinola)
Nysson trimaculatus (Rossi)

Apoidea – Bees

Andrena ovatula (Kirby)
A. synadelphe Perkins
A. similis Smith
A. tibialis (Kirby)
Bombus cryptarum (Fabricius)
Bombus hypnorum (Linnaeus)
Colletes halophilus Verhoeff
C. hederae Schmit & Westrich
Hylaeus pectoralis Förster
H. signatus (Panzer)
Lasioglossum minutissimum (Kirby)
L. pauxillum (Schenck)
Nomada flava Panzer
N. flavopicta (Kirby)
N. fulvicornis Fabricius
Osmia spinulosa (Kirby)
Sphecodes crassus Thomson
S. puncticeps Thomson
S. reticulatus Thomson
Stelis punctulatissima (Kirby)

Correction: Spurn Odonata records

D. Branch danielbranch94@googlemail.com

It has been drawn to the author's attention that in a recent article on dragonflies at Spurn (Branch, D. (2019) A summary of Odonata records in the Spurn Bird Observatory area: analysing the evidence for breeding and migration. *The Naturalist* 144: 18-31) there were a number of errors in the paper. The author apologises for these and is grateful to Barry Spence for identifying them. The corrections are given below.

Large Red Damselfly *Pyrrhosoma nymphula*: The record stated for 1949 should have been 1940.

Blue-tailed Damselfly *Ischnura elegans*: The highest count of this species was in fact 5000+ on the 20 May 1999, not 1000+ as originally quoted.

Common Blue Damselfly *Enallagma cyathigerum*: The record of 700 on 19 May 1999 was erroneous; this count should have been 350. This is still the highest count of this damselfly at Spurn. The record on 4 July 1999 actually refers to newly emerged tenerals from Clubley's scrape.

Small Red-eyed Damselfly *Erythromma viridulum*: The first record at Spurn on 5 August 2007 was from the Canal Zone, not Canal Scrape.

Southern Hawker *Aeshna cyanea*: There were also two individuals seen on 9 September 2007, making it a joint highest date with the two on 25 August 2016.

Brown Hawker *Aeshna grandis*: The latest record of Brown Hawker is actually 1 September 2005.

Four-spotted Chaser *Libellula quadrimaculata*: The statement; 'It is probable the Four-spotted Chaser remained abundant during this period' is unfounded. The earliest date recorded is actually 29 April 2007, not 3 May 2005.

Ruddy Darter *Sympetrum sanguineum*: Records from 1998 and 1999 from the 'south end of the canal' should have instead been at the 'western end of the canal zone'.

Common Darter *Sympetrum striolatum*: The correct account of records from 1997 is: a newly emerged teneral from Clubley's scrape was noted on 7 July. Then on 7 September that year c.350 appeared around the Warren (they were obviously newly arrived immigrants). On the following days many were seen ovipositing in Clubley's scrape and the following year several hundred emerged from Clubley's scrape from 21 June.

There is also a record for 17 November 2007, joint latest with 2006.

Vagrant Darter *Sympetrum vulgatum*: 1995 - Finders should read 'A. Dawson, B.R. Spence', and the dragonfly was not caught in the Heligoland Trap.

Yellow-winged Darter *Sympetrum flaveolum*: 1998 - The records from this year are erroneous. This reduces the total records to 15.

The Mole on Thorne Moors, Yorkshire

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Introduction

The Mole *Talpa europaea* has been recorded in mammal surveys on Thorne Moors for some years (Roworth, 1993; Wainwright, 2000; Limbert *et al.*, 2013). Usually these are sightings of dead Moles on the ground. The excavations of material from the Moles' underground 'runs' are more commonly seen but rarely, if ever, recorded.

A Mole's network of tunnels covers an area of between 400 and 2000 square metres (Malam, 1985). As noted in *Yorkshire Mammals*, moles on Thorne Moors have colonised the ballast and soil along tramways, but are absent from the adjoining peat (Clinging & Whiteley, 1980) which is presumably unsuitable habitat.

Method of survey

Molehills were recorded using a hand-held Global Positioning System (GPS). Where a number of molehills were found in close proximity a GPS reading was taken near the centre of the 'run'. A line of molehills extending for quite some distance along a track may be the result of a single animal searching for food, so it was decided that molehills that were fairly close together were probably the result of one animal. As Thorne Moors covers an area of c.1900 hectares, if each molehill was shown on a small map it would be difficult to accurately represent them in a meaningful way. In view of this, I split the tracks into 100 metre sections. If molehills occurred more than once in a 100m section they were only recorded as one incidence, as they were probably the result of the same animal. The condition of the tracks was noted and is shown on the accompanying map (Figure 1, p197). This shows the outline of Thorne Moors and the main tracks across the site. The survey took place over three months between 6 January 2016 and 16 March 2016.

Discussion

It appears that Moles mainly use the periphery of Thorne Moors, presumably because the interior of the Moors is wet or flooded peat. The existence of a large network of narrow-gauge railway embankments and foundations which lie above the peat has allowed the Moles access to other parts of the Moors. Where these foundations are of stone, and consequently the burrowing is difficult, the Moles have not ventured far. Two notable exceptions are Blackwater and Limestone Road North. It can be seen from the map that around half the sightings are away from the moor edge.

It would be useful if the present Mole survey were to be compared with future surveys to ascertain how rising water levels, due to the programme of damming drains, affect the Mole distribution on Thorne Moors.

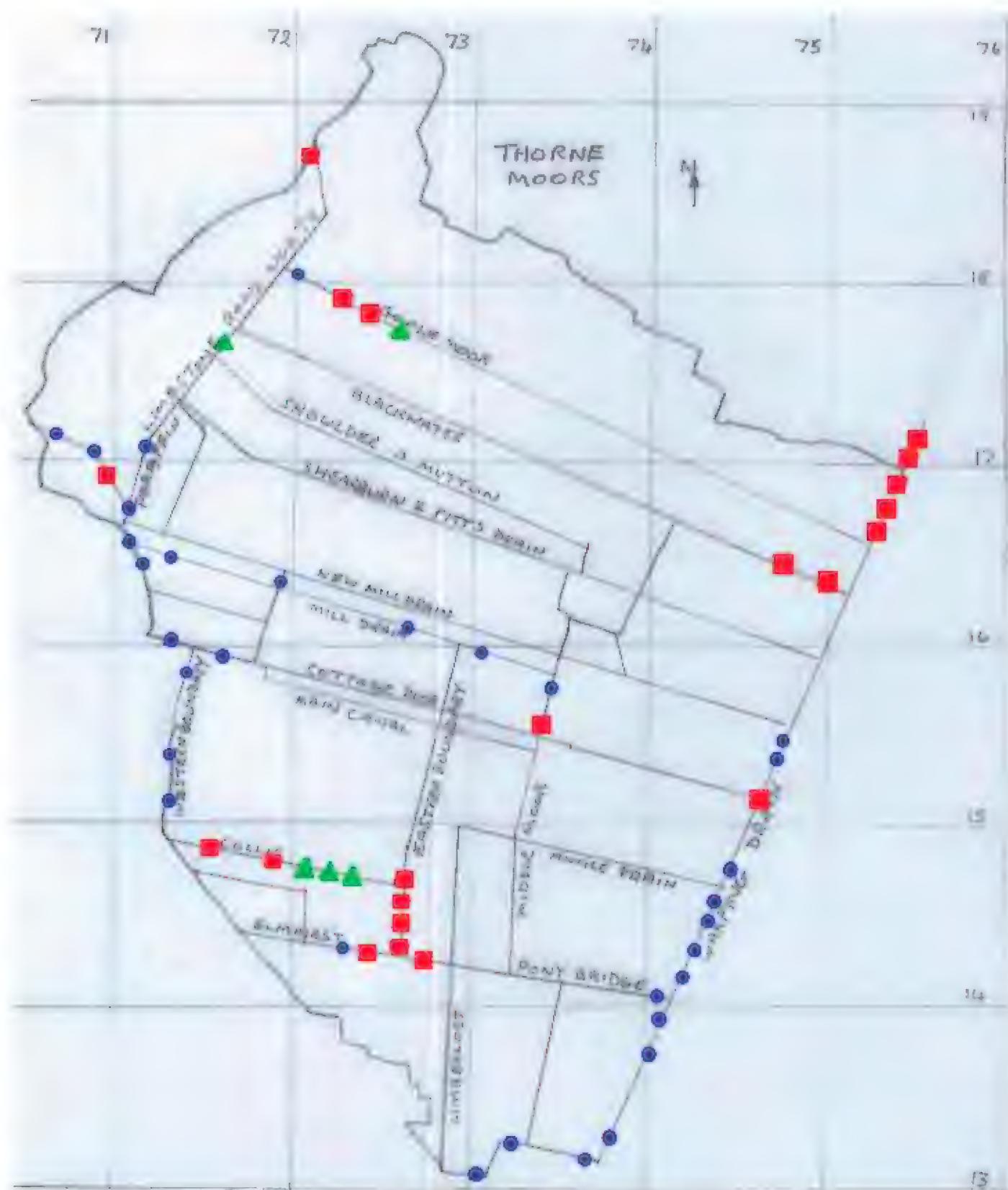


Figure 1. Map of Thorne Moors showing the positions of molehills in 100m sections of trackways. A blue dot indicates wet ground, a red square indicates damp ground and a green triangle indicates dry ground.

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The following references to Thorne Moors Mammal and Vertebrate reports can be found at:
<http://www.birdingsiteguide.com/index.php/other-items/86-annual-reports-papers>

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YNU Annual Conference and Exhibition 2020

The 2020 YNU conference is being organised in partnership with the North and East Yorkshire Ecological Data Centre (NEYEDC). The conference will take place on **Saturday 28th March** in the **Ron Cooke Hub, University of York**, on the theme of:

Biological recording for conservation management

We are delighted to announce that the keynote address will be given by **Rachael Bice**, the new Chief Executive Officer of Yorkshire Wildlife Trust. The conference will include talks, displays and discussions about local evidence-based conservation, with a particular focus on using biological records to inform adaptive management. With examples from across Yorkshire, covering a wide range of species and habitats from the uplands and urban areas to the coast, there is sure to be something of interest to all YNU members! Throughout the day there will be natural history displays, book sales and plenty of time for networking. It will be a great opportunity for newer members to meet others and find out more about the YNU. The programme will be published on the YNU website in due course.

Conference tickets are £25 for YNU members and £35 for non-members. This includes the conference lunch and refreshments. Further information and booking can be found at:

www.ynu.org.uk/conference2020

If you would like to bring a poster or display on the theme of biological recording for conservation management, please contact the conference organiser, Paula Lightfoot, on p.lightfoot@btinternet.com or 07539 340128.

If you would like to suggest themes for future YNU conferences or offer to help with organisation, please visit the conference page on the YNU website for information on how to contribute.

Notable range shifts of some Orthoptera in Yorkshire

Phillip Whelpdale

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2019 has been an interesting year for many species in terms of shifting distributions and none more so than two orthopterans from the Tettigoniidae family (bush-crickets). Long-winged Cone-head *Conocephalus fuscus* - a relatively recent arrival to Yorkshire - and Roesel's Bush-cricket *Metrioptera roeselii* have both shown significant northward range expansions of up to 80km over the last year (see Figure 1 opposite). Both are considered Nationally Scarce.

It is well known that some orthopterans (particularly Tettigoniidae) exhibit increased dispersal capabilities in recently colonised areas. A 2003 study by Leeds University (Simmons & Thomas, 2004) showed that there was an evolutionary trait which led to certain

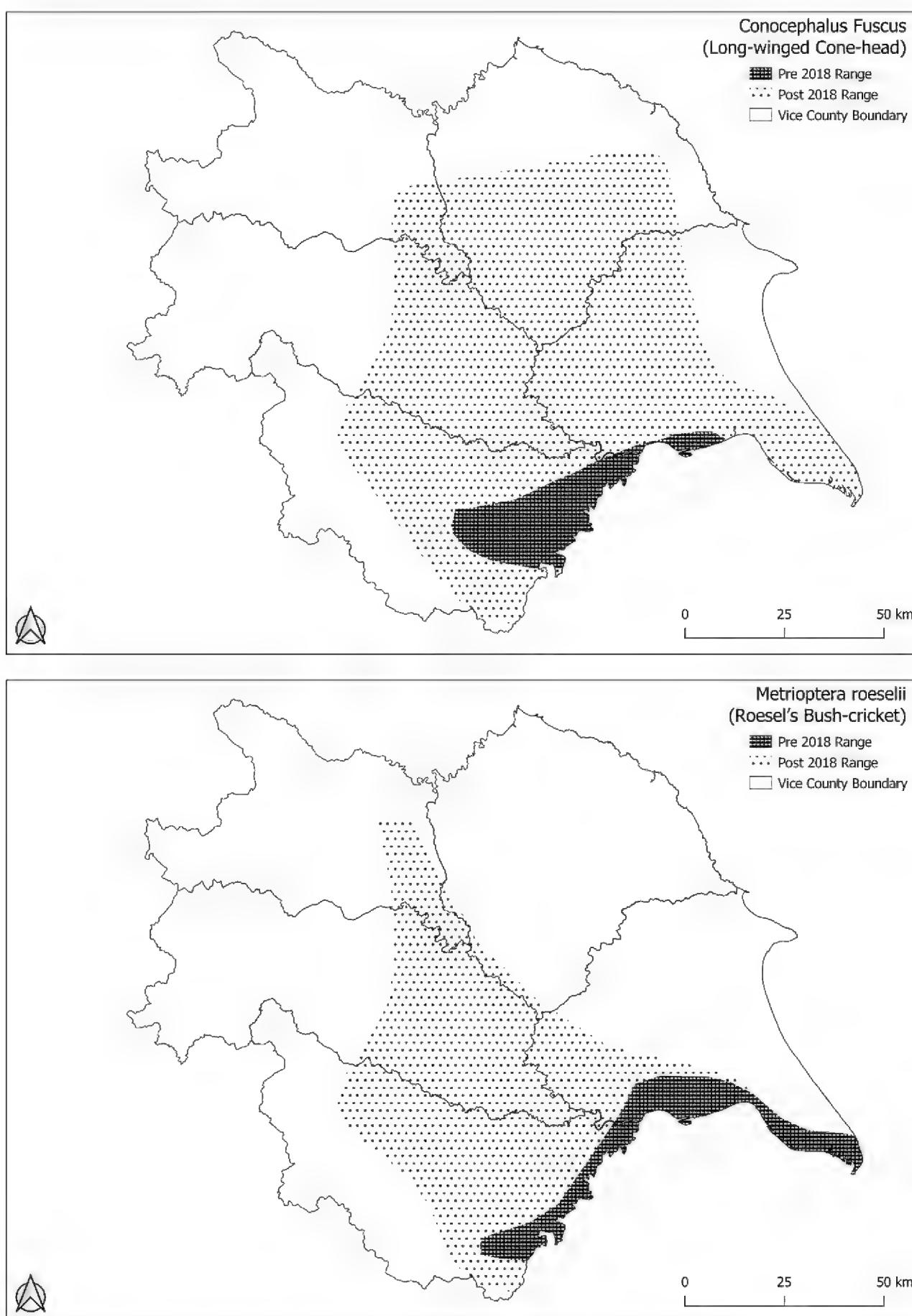


Figure 1. Maps showing the distribution of two Orthopterans:
Top: Long-winged Conehead, and *Lower*: Roesel's Bush Cricket, before and after 2018.

populations of Long-winged Cone-head and Roesel's Bush-cricket having increased numbers of long-winged (macropterous) individuals at the edges of their ranges compared to those within the longer-established main population. Understandably these longer-winged individuals have a much greater dispersal capacity and this may be a factor in the rapid dispersal we have seen in Yorkshire recently. Unfortunately, with the exception of one record from the Ripon area of



Figure 2. Long-winged Cone-head *Conocephalus fuscus* - long-winged (macropterus) form.

a macropterus Roesel's Bush-cricket (confirmed by Jim Jobe), it has not been possible to determine whether all of the new sightings from new range edge sites were of macropterus forms.

Of course, another possibility is simply the nature of how under-recorded the Orthoptera are, and, as such, many records may have simply gone unreported up until now and the increased range expansion is perhaps not as recent as we think. Either way, one thing is certain, you may be more likely to see these two bush-crickets across Yorkshire in 2020 than in previous years and I welcome and encourage anyone to send in records for these and any other orthopteran that they come across next year, either directly or via the excellent iRecord app (<https://www.brc.ac.uk/irecord/>).

Acknowledgements

I wish to thank Dr David Chesmore, who was the previous YNU Orthoptera recorder, as well as all those who submitted records for the two bush-crickets discussed here: Paul Ashton, David Ashton, Africa Gomez, Mark Hewitt, Allen Holmes, Jim Jobe, Jim Neary, Ian McDonald, Ronald Moore, Barbara Murphy, Robert Seaton, Chris Tindal, Barry Warrington, Simon Warwick, Harry Wiggs, Derek Whiteley and Martyn Vaughan Priestley.

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Yorkshire Ichneumons: Part 10

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Introduction

Yorkshire statuses are taken from the chart shown on the YNU website.

www.ynu.org.uk/insects/parasitic_wasps

† = new county record

* = new vice-county record

Most records that have been published from one or more vice-counties in the past usually represent the first specimens to be identified and are often the first to be collected. Records newly published in this series are the earliest confirmed ones to be collected at the time of publication. They may not be the first to be collected and earlier specimens may come to light and be identified subsequently. Such changes are not published in this series as the list of vice-counties for each species is not altered but it should be borne in mind.

Subfamily PIMPLINAE

Addition to Ely (2013a):

Dolichomitus pterelas (Say, 1829). Rare in Yorkshire.

*VC63: Beeston Plantation, Potteric Carr YWT NR 11-25.6.2018 J.Horsfall.

Addition to Ely (2014a):

Perithous septemcinctorius (Thunberg, 1822). Rare in Yorkshire.

*VC63: Beeston Plantation, Potteric Carr YWT NR 11-25.6.2018 J.Horsfall.

Subfamily TRYPHONINAE

Additions to Ely (2015):

Tribe *Oedomopsini*

Thymaris srikem Fitton & Ficken, 1990. New to Yorkshire.

†VC64: Colt Park Wood SSSI 16.7.2018 T.M.Whitaker.

Tribe *Tryphonini*

Polyblastus (Polyblastus) wahlbergi Holmgren, 1855. Scarce in Yorkshire.

*VC61: New Covert, Melbourne 4-11.9.2003 S.E.M.Fraser.

Polyblastus (Labroctonus) pallicoxa Thomson, 1888. Rare in Yorkshire.

*VC62: Haxby 18.5.2019 T.J.Crawford.

Monoblastus brachyacanthus (Gmelin, 1790). New to Yorkshire.

†VC64: Middle Wood, Askham Bog YWT NR 15.7.2016 R.Crossley.

Ctenochira rufipes (Gravenhorst, 1829). New to Yorkshire.

†VC62: Ellerburn Bank YWT NR 4-8.7.2010 P.J.Mayhew.

Tribe *Exenterini*

Exyston subnitidus (Gravenhorst, 1829). New to Yorkshire.

†VC61: Hagg Wood, Dunnington 6.6.2016 R.Crossley.

Subfamily PHYGADEUONTINAE

Subtribe *Hemitelina*

Additions to Ely (2015b):

Hemiteles similis (Gmelin, 1790). Scarce in Yorkshire.

*VC62: Whitby 10.8 + 1.11.1936 H.Britten.

Arotrepes speculator (Gravenhorst, 1829). Rare in Yorkshire.

*VC61: Thornton 25.3.2016 R.Crossley (det. G.R.Broad)

Subtribe *Phygadeuontina*

Addition to Ely (2016):

Bathythrix alter (Kerrich, 1942). New to Yorkshire.

†VC63: Will Pits, Thorne Moors NNR 12.10.2018 H.R.Kirk, M.Warne.

Subfamily **BANCHINAE**

Tribe *Atrophini*

Additions to Ely (2018):

Lissonota (Campocineta) accusator (Fabricius, 1793). New to Yorkshire.

†VC65: Nosterfield NR 14.8.2018 C.H.Fletcher.

Lissonota (Campocineta) mutator Aubert, 1969. Rare in Yorkshire.

*VC64: Copmanthorpe Wood 1-8.7.2003 S.E.M.Fraser.

Subfamily **CTENOPELMATINAE**

Additions to Ely (2019):

Rhorus anglicator Aubert, 1988. Rare in Yorkshire.

*VC62: Ellerburn Bank YWT NR 4-8.7.2010 P.J.Mayhew.

Symphereta antilope (Gravenhorst, 1829). Rare in Yorkshire.

*VC64: Hackfall Woods 2.7.2018 C.H.Fletcher.

Asthenara socia (Holmgren, 1857). Rare in Yorkshire.

*VC62: Ellerburn Bank YWT NR 4-8.7.2010 P.J.Mayhew.

*VC63: King's Wood, Bawtry 24.6.1984 P.Skidmore.

Perilissus holmgreni Habermehl, 1925. Rare in Yorkshire.

*VC62: Ellerburn Bank YWT NR 4-8.7.2010 P.J.Mayhew.

Absyrtus vicinator (Thunberg, 1824). Frequent in Yorkshire.

Some of the specimens on which Hincks' reports from VC63 were based (Hincks 1953a, p38) are in the Manchester Museum collections and some of them have now been confirmed.

Lathrolestes verticalis (Brischke, 1871). Rare in Yorkshire.

*VC61: Melbourne Hall 4-11.9.2003 S.E.M.Fraser.

Saotis varicoxa (Thomson, 1893). New to Yorkshire.

†VC63: Charltonbrook, Sheffield 11.7.1977 S.Ashurst.

Hyperbatus segmentator (Holmgren, 1857). New to Yorkshire.

†VC63: Catcliffe Flash LNR 9.10.1988 W.A.Ely.

Campodorus melanogaster (Holmgren, 1857). New to Yorkshire.

†VC63: Beeston Plantation, Potteric Carr YWT NR 11-25.6.2018 J.Horsfall.

Mesoleius armillatorius (Gravenhorst, 1807). Rare in Yorkshire.

*VC62: Sandy Bank, Black Hills, Northallerton 29.6.2011 W.A.Ely.

Mesoleius aulicus (Gravenhorst, 1829). Rare in Yorkshire.

*VC62: Buttercrambe woods 22.6.1935 J.Wood.

Mesoleius filicornis Holmgren, 1876. New to Yorkshire.

†VC61: Jeffry Bog Plantation 17.7.2015 R.Crossley.

Mesoleius furax Holmgren, 1857. Rare in Yorkshire.

*VC63: Beeston Plantation, Potteric Carr YWT NR 11-25.6.2018 J.Horsfall.

Euryproctus annulatus (Gravenhorst, 1829). Rare in Yorkshire.

*VC63: Morthen Brook, Ulley 18.8.2019 M.A.Smethurst.

Subfamily **CAMPOPLEGINAE**

Sinophorus albidus (Gmelin, 1790).

Unconfirmed report from VC61 in Walsh & Rimington (1956) p278.

Sinophorus fuscicarpus (Thomson, 1887). Rare in Yorkshire.

Recorded from VC61 in Hincks (1951) p28 and (1953) p136.

Sinophorus juniperinus (Holmgren, 1856). Rare in Yorkshire.

*VC63: Fitzwilliam Canal 26.7.1984 + Greasbrough Stream, Parkgate 13.7.1985 W.A.Ely.

†VC64: Askham Bog YWT NR 5.7.1944 W.D.Hincks.

Sinophorus turionum (Ratzeburg, 1844). Rare in Yorkshire.

*VC63: Sheffield ex *?Hydriomena furcata* on Ling adult em. 12.7.1992 T.H.Ford (det. K.Horstmann).

†VC65: Colsterdale 28.6.1981 W.A.Ely.

Campoplex faunus Gravenhorst, 1829.

Unconfirmed reports from VC62 by Morley (1915) p147 and from VC63 by Carr (1914) p94.

Campoplex punctipleuris Horstmann, 1980. Rare in Yorkshire.

Recorded from VC64 in Parkinson (2015) p15.

Campoplex punctulatus (Szépligeti, 1916). Scarce in Yorkshire.

Recorded from VC61 in Ely (2014c) p236.

*VC63: Maltby Common 5.6.1976 W.A.Ely.

*VC65: Hardings 18.7.2014 W.A.Ely.

Campoplex pyraustae Smith, 1931. Scarce in Yorkshire.

*VC61: Hollym Carrs NR 25.5.2002 W.R.Dolling.

*VC62: Caydale 24.6.1984 W.A.Ely.

†VC63: River Don, Thrybergh 17.8.1980 W.A.Ely.

*VC64: York ex tortricid 1982 J.Payne.

*VC65: Marske 29.6.2015 W.A.Ely.

Campoplex raschkiellae Horstmann, 1980. Rare in Yorkshire.

†VC63: Sowerby Bridge ex *Mompha rashkiella* adult em 19.8.2010 C.Street (det. K.Horstmann).

Campoplex restrictor Aubert, 1960. Rare in Yorkshire.

Recorded from VC61 in Ely (2014c) p236.

*VC63: Howell Wood 17.8.1986 D.Whiteley.

Campoplex striatus Horstmann, 1985. Rare in Yorkshire.

*VC61: Allerthorpe Common YWT NR 5.8.1989 W.A.Ely.

†VC63: Clifton Park, Rotherham 26.7.1983 W.A.Ely.

Campoplex tibialis (Szépligeti, 1916). Scarce in Yorkshire.

*VC61: Wigman Wood, Wheldrake 4-11.9.2003 S.E.M.Fraser.

†VC63: Greasbrough Dam, Wentworth Park 7.8.1978 M.Crittenden,D.W.Twigg.

*VC64: Spire Farm 1.8.2011 W.A.Ely.

*VC65: High Batts NR 21.7.2014 W.A.Ely.

Campoplex tumidulus Gravenhorst, 1829. Rare in Yorkshire.

†VC63: Catcliffe ex *?Pterophorus pentadactyla* adult em. 1.6.1994 T.H.Ford (det. K.Horstmann).

*VC64: Giggleswick, Settle ex *Platyptilia gonodactyla* adult em. 29.5.2006 C.Hart (det. K.Horstmann).

Campoplex unicingulatus (Schmiedeknecht, 1909). Rare in Yorkshire.

*VC61: Millington Springs 10.6.2014 R.Crossley.

†VC63: Harthill Lower Reservoir 2.6.2005 W.A.Ely.

*VC64: Hollins Hill, Baildon 8.2013 + 8 + 22.8.2015 H.N.Whiteley.

*VC65: Nosterfield NR 19.7.2018 A.R.Godfrey.

Casinaria albipalpis (Gravenhorst, 1829). Rare in Yorkshire.

†VC61: Wigman Wood, Wheldrake 5-12.8.2003 S.E.M.Fraser.

Casinaria ischnogaster Thomson, 1887. Rare in Yorkshire.

Unconfirmed reports from VC63 in Coldwell (1999) p61 and from VC65 in Ely (2014b) p233.

*VC61: Wigman Wood, Wheldrake 5-12.8.2003 S.E.M.Fraser.

†VC63: Laughton Common 24.6.2001 W.A.Ely.

Casinaria mesozostus Gravenhorst, 1829. Rare in Yorkshire.

†VC61: Skipwith Common 28.7.1930 J.Wood.

*VC64: Pennine Way, Cave Hill 8.8.1987 W.A.Ely.

*VC65: Hagg Grounds, Cotherstone 12.7.2012 W.A.Ely.

Casinaria moesta (Gravenhorst, 1829). Rare in Yorkshire.

†VC64: Austwick Moss 30.5.1987 W.A.Ely.

Casinaria morionella Holmgren, 1860. Scarce in Yorkshire.

Recorded from VC63 in Ely (2014d) p43,44.

*VC64: Blubberhouses Moor 21.8.2011 A.R.Godfrey.

Casinaria petiolaris (Gravenhorst, 1829).

Unconfirmed reports from VC63 in Roebuck (1907) p214 and Morley (1915) p111.

Casinaria trochanteratus Aubert, 1960. Rare in Yorkshire.

Recorded from VC63 (as *C. ischnogaster*) in Ely (2014d) p44.

Alcima orbitale (Gravenhorst, 1829). Rare in Yorkshire.

Recorded from VC63 in Ely (2013b) p223.

*VC61: Filey Sands 27.7.1985 W.A.Ely.

Nemeritis caudatula Thomson, 1887. Rare in Yorkshire.

†VC61: North Cliffe Wood 22.8.2011 R.Crossley.

Nemeritis macrocentra (Gravenhorst, 1829).

Unconfirmed reports from VC62 in Walsh & Rimington (1956) p278 and from VC63 in Morley (1915) p132.

Rhimphoctona (Xylophylax) megacephalus (Gravenhorst, 1829). Rare in Yorkshire.

†VC63: Lindholme Oaks, Hatfield Moor 11.6.2011 W.A.Ely.

Bathyplectes curculionis (Thomson, 1887). Scarce in Yorkshire.

†VC61: E Quarry, Cottingham adult em. 18.4.1979 S.G.Compton (det. K.Horstmann).

*VC63: Thrybergh CP 19.6.1986 W.A.Ely.

*VC64: Camblesforth Golf Course 27.7.1987 W.A.Ely.

*VC65: Sleddale, Hawes 5.7.2013 W.A.Ely.

Bathyplectes exiguum (Gravenhorst, 1829). Rare in Yorkshire.

Recorded from VC64 in Ely (2011a) p215.

*VC63: Maltby Dike 30.6.2001 W.A.Ely.

Bathyplectes infernalis (Gravenhorst, 1820). Rare in Yorkshire.

†VC63: Keppel's Field LNR 31.5.2000 W.A.Ely.

*VC64: Scar House Reservoir 31.5.2014 W.A.Ely.

Bathyplectes quinqueangularis (Ratzeburg, 1852). Rare in Yorkshire.

†VC61: Wayrham Dale 5.6.2013 W.A.Ely.

Bathyplectes tibiator (Gravenhorst, 1820). Rare in Yorkshire.

Recorded from VC63 in Ely (2014d) p44.

Nepista mandibularis (Holmgren, 1860). Rare in Yorkshire.

*VC62: Flamingo Land 27.9.2014 W.A.Ely.

†VC63: Broom Royd Wood 18.5.1980 W.A.Ely.

*VC64: Hollins Hill, Baildon 8-15.4.2015 H.N.Whiteley.

Nepista tricingulata Horstmann, 1973. Rare in Yorkshire.

†VC63: Upper Castle Lidget Quarter, Maltby Wood 5.6.1983 W.A.Ely.

Scirtetes robustus (Woldstedt, 1874). Rare in Yorkshire.

Recorded from VC64 in Parkinson (2011) p152, (2015) p17.

*VC61: East Cottingwith 13.4.2011 R.Crossley.

Gonotyptus melanostoma (Thomson, 1887). Scarce in Yorkshire.

*VC61: Park Wood, Ross Moor, Melbourne 5-12.8.2003 S.E.M.Fraser.

*VC62: Snargate Hill, Brandsby 2.9.2011 W.A.Ely.

†VC63: Aldwarke 29.8.1985 W.A.Ely.

*VC64: Greenland Wood, Copmanthorpe 4-11.9.2003 S.E.M.Fraser.

*VC65: Rake Beck Wood 4.10.1985 I.F.G.McLean.

Campoletis annulata (Gravenhorst, 1829). Frequent in Yorkshire.

*VC61: North Ferriby 18.6.1977 W.A.Ely.

*VC62: Raper's Farm, Cropton Forest 9.7.2011 W.A.Ely.

*VC63: Holmehouse Wood 17.8.1930 J.Wood.

†VC64: Sunnydale 30.6.1929 J.Wood.

*VC65: Park End, Teesdale 21.6.1981 W.A.Ely.

Campoletis ensator (Gravenhorst, 1829). Frequent in Yorkshire.

Unconfirmed reports from VC63 in Morley (1915) p154 and Ely (2014d) p39 and from VC64 in Hincks (1942) p172, (1943a) p59.

*VC61: Old Hall Farm, Sunk Island 17.8.1986 W.A.Ely.

*VC62: Kidsyke Farm, Cropton Forest 9.7.2011 W.A.Ely.

†VC63: Fishlake 3.7.1976 P.Skidmore (tM.Riedel).

*VC64: Baildon 20.6.2011 D.Parkinson.

*VC65: Birk Gill Wood, Colsterdale 7.7.1984 W.A.Ely.

Campoletis fasciata (Bridgman, 1888). Rare in Yorkshire.

*VC61: Old Hall Farm, Sunk Island 17.8.1986 W.A.Ely (tM.Riedel).

†VC63: Bentley Common 23.6.1976 P.Skidmore (tM.Riedel).

*VC64: Malham Tarn Fen 10.2013 P.Flint,S.Flint (tM.Riedel).

Campoletis femoralis (Gravenhorst, 1829).

Unconfirmed reports from VC61 in Bridgman & Fitch (1885) p102, Bridgman (1886) p 349, Roebuck (1906a) p279, (1907) p214 and Morley (1915) p96.

Campoletis fuscipes (Holmgren, 1856).

Unconfirmed report from VC62 in Fordham (1926) p118 and Walsh & Rimington (1956) p276.

Campoletis latrator (Gravenhorst, 1829). Uncommon in Yorkshire.

*VC61: Old Hall Farm, Sunk Island 17.8.1986 W.A.Ely.

*VC62: Ellerburn Bank YWT NR 4-8.7.2010 P.J.Mayhew.

†VC63: Campsall 13.7.1976 + Lake 23.7.1977 P.Skidmore.

*VC64: Spenfield ex *Amphipyra berbera* adult em. 14.6.1988 G.Boyd.

*VC65: Semerwater YWT NR 20.8.1988 W.A.Ely.

Campoletis postica (Bridgman & Fitch, 1885). Rare in Yorkshire.

Recorded from VC63 in Ely (2014d) p44.

*VC61: Jeffry Bog YWT NR 17.7.2015 R.Crossley.

Campoletis punctata (Bridgman, 1886). Rare in Yorkshire.

†VC64: Low House, Mewith 12.6.2014 W.A.Ely (det. M.Riedel).

Campoletis rapax (Gravenhorst, 1829). Rare in Yorkshire.

†VC63: Thorne Moors NNR 25.7.1976 P.Skidmore.

*VC64: Langden Brook valley, Trough of Bowland 25.7.2015 W.A.Ely.

Campoletis rufifasciatae Riedel, 2017. Rare in Yorkshire.

†VC61: Cat Babbleton 22.6.1985 G.King (tM.Riedel).

*VC62: Beast Cliff 6.9.1986 W.A.Ely.

*VC63: Brough Green Brook Carr 2.8.1986 and Worsbrough CP 24.5.1993 W.A.Ely.

*VC64: Askham Bog YWT NR 13.5.2015 R.Crossley (tM.Riedel).

Campoletis thomsoni (Roman, 1915). Rare in Yorkshire.

*VC62: Pexton Bank YWT NR 1-4.6.2015 P.J.Mayhew.

†VC63: Blackbrook Wood 13.7.1989 D.Roberts.

*VC64: Hollins Hill, Baildon 9.2013 H.N.Whiteley (tM.Riedel).

Campoletis varians (Thomson, 1887). Rare in Yorkshire.

Recorded from VC63 in Denton (2017) p444.

*VC61: Wigman Wood, Wheldrake 4-11.9.2003 S.E.M.Fraser (det. M.Riedel)

*VC62: Castlebeck Wood Woodland Trust NR 7.9.1986 W.A.Ely.

Campoletis viennensis (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC61 in Carr (1914) p94.

†VC64: Fairburn Ings RSPB NR 10.5.1975 W.A.Ely (det. M.Riedel).

Campoletis vimmeri (Gregor, 1935). Rare in Yorkshire.

†VC63: Wharncliffe Wood 17 + 23.4.1980 A.Brackenbury.

Campoletis zonata (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC64 in Morley (1915) p100.

†VC64: Malham Tarn 8.6.1954 W.D.Hincks (det. J.F.Perkins).

*VC65: Downholme Park quarry 25.7.1987 W.A.Ely.

Venturia canescens (Gravenhorst, 1829).

Unconfirmed report from VC62 in Walsh & Rimington (1956) p278 and from VC63 in Anon (1913) p82, Morley (1915) p134, Coldwell (1999) p61 and Ely (2014d) p39.

Porizon transfuga (Gravenhorst, 1829). Rare in Yorkshire.

*VC61: Stockingdale 25.6.1983 W.A.Ely.

†VC62: Ruston Cliff Wood 21.7.1979 W.A.Ely.

*VC63: Deepcarr ex *Caloptilia syringella* adult em. Spring 1981 S.P.Garland.

*VC64: Hollins Hill, Baildon 5.8.2015 + 5-8.2016 H.N.Whiteley.

Cymodusa antennator Holmgren, 1860. Rare in Yorkshire.

Recorded from VC62 in Ely (2013d) p237.

*VC61: New Covert, Melbourne 1-8.7.2004 S.E.M.Fraser.

*VC63: Thorne Moors NNR canals 24.6-14.7.1987 W.A.Taylor.

*VC64: Drax Abbey Farm 23.7.1987 W.A.Ely.

Cymodusa declinator (Gravenhorst, 1829). Uncommon in Yorkshire.

*VC61: Cowden 11.9.2011 W.A.Ely.

*VC62: Flamingo Land 20.9.2013 W.A.Ely.

†VC63: Herringthorpe Wood 27.9.1977 P.G.Stenton,J.E.Addey.

*VC64: Colton 9.1983 J.Payne.

*VC65: Cleasby 3.9.2012 W.A.Ely.

Cymodusa leucocera Holmgren, 1859. Rare in Yorkshire.

Recorded from VC63 in Ely (2014d) p44.

Dusona aemula (Förster, 1868). Rare in Yorkshire.

Recorded from VC63 in Ely (2014d) p44.

*VC62: Skinningrove 3.9.2011 R.S.&R.Key,

Dusona angustata (Thomson, 1887). Scarce in Yorkshire.

Unconfirmed report from VC64 in Morley (1915) p74.

†VC61: Allerthorpe 31.8.1927 + Frog Hall 5.7.1928 W.J.Fordham.

*VC62: Garbutt Wood YWT NR ex Little Emerald 13.9.1991 J.Payne.

*VC63: Dobb Dike 10.7.1985 D.Maude.

*VC64: Sunnydale 6.7.1929 J.Wood.

Dusona angustifrons (Förster, 1868). Scarce in Yorkshire.

*VC61: Allerthorpe Common 5.8.1989 W.A.Ely.

*VC62: Over Dinsdale 3.9.2012 W.A.Ely.

†VC63: Wolfstone Heights 24.6.1985 D.Maude.

Dusona annexa (Förster, 1868). Rare in Yorkshire.

†VC61: Wigman Wood, Wheldrake and Wilson's Plantation, Stamford Bridge 5-12.8.2003 S.E.M.Fraser.

*VC62: Coatham 7.8.2011 W.A.Ely.

*VC64: Askham Bog YWT NR 29.7.2014 + Middle Wood 22.5.2015 R.Crossley.

Dusona bicoloripes (Ashmead, 1906). Uncommon in Yorkshire.

Recorded from VC64 by Ely (2013c) p227 and from VC65 by Newbould *et al.* (2013) p57.

*VC61: Foggathorpe 12.6.1985 unknown.

*VC62: Forge Valley 7.6.2003 P.J.Chandler (det. K.Horstmann).

*VC63: Wharncliffe Wood 31.5.1978 + 25.5.1979 + 23.5.1980 + 1 + 4.6.1982 A.Brackenbury.

Dusona blanda (Förster, 1868). Rare in Yorkshire.

†VC63: Kimberworth, Rotherham 30.8.1975 E.Dransfield.

*VC64: Greenland Wood, Copmanthorpe 4-11.9.2003 S.E.M.Fraser.

Dusona bucculenta (Holmgren, 1860).

Unconfirmed unlocalised report in Morley (1915) p84.

Dusona carinifrons (Holmgren, 1860). Rare in Yorkshire.

†VC62: Keld Head 13.10.1985 G.King.

Dusona carpathica (Szépligeti, 1916). Rare in Yorkshire.

†VC62: Fen Bog YWT NR 3.8.2013 R.Crossley.

Dusona confusa (Förster, 1868). Rare in Yorkshire.

†VC61: Rush Wood, Naburn 10-17.6.2003 S.E.M.Fraser.

Dusona contumax (Förster, 1868).

Unconfirmed report from VC63 in Bridgman (1886) p345, Anon (1887) p20, Roebuck (1907) p214, Morley (1915) p80 and Ely (2014d) p39.

Dusona cultrator (Gravenhorst, 1829). Rare in Yorkshire.

*VC63: Wharncliffe Wood 19.6.1978 A.Brackenbury.

†VC64: Askham Bog YWT NR 15.9.1946 W.D.Hincks.

Dusona dubitor Hinz, 1977. Rare in Yorkshire.

Recorded from VC63 in Ely (2014d) p44.

Dusona erythrogaster (Förster, 1868). Rare in Yorkshire.

Unconfirmed report from VC64 in Wilson (1883) p109 and Roebuck (1907) p214.

*VC61: Foggathorpe 12.6.1985 unknown.

†VC62: Caydale 24.6.1984 W.A.Ely.

*VC63: Chesterfield Canal 21.5.1988 A.Brackenbury.

Dusona falcator (Fabricius, 1775). Rare in Yorkshire.

Unconfirmed reports from VC62 in Roebuck (1877) p38 and Morley (1915) p72 and from VC63 in Porritt (1925) p87.

Recorded from VC63 in Ely (2014d) p44.

Dusona flagellator (Fabricius, 1793). Rare in Yorkshire.

Recorded from VC63 in Ely (2014d) p44.

Dusona infesta (Förster, 1868). Rare in Yorkshire.

†VC61: Skipwith 24.7.1918 W.J.Fordham.

Dusona insignita (Förster, 1868). Rare in Yorkshire.

Recorded from VC63 in Bridgman (1886) p344, Anon (1887) p20, Roebuck (1907) p214, Morley (1915) p157 and Ely (2014d) p39.

*VC61: Allerthorpe Common 6.1926 W.J.Fordham.

Dusona juvenilis (Förster, 1868).

Unconfirmed reports from VC63 in Morley (1915) p90 and Ely (2014d) p39.

Dusona leptogaster (Holmgren, 1860). Rare in Yorkshire.

Recorded from VC61 in Fordham (1931) p356.

*VC62: Stockendale Farm 25.6.1983 W.A.Ely.

*VC63: Wentworth Park 26.5.1974 P.Skidmore.

Dusona libertatis (Teunissen, 1947). Rare in Yorkshire.

Recorded from VC63 in Ely (2014d) p39,44.

Dusona mercator (Fabricius, 1793). Rare in Yorkshire.

Unconfirmed reports from VC62 in Roebuck (1907) p214 and from VC63 in Roebuck (1907) p214, Carr (1914) p94 and Ely (2014d) p39.

†VC61: Dane Hills, Skipwith Common YWT NR 18.6.1983 W.A.Ely.

Dusona nidulator (Fabricius, 1804). Rare in Yorkshire.

Recorded from VC62 in Hincks (1943b) p122, (1944) p38, (1956) p149, Walsh & Rimington (1956) p278 and Key (1987) p152.

*VC61: Hessle 1943 + 1947 D.H.Smith (det. J.F.Perkins).

*VC63: Keighley 1916 R.Butterfield.

*VC64: Austwick 14.6.1919 R.Butterfield.

Dusona polita (Förster, 1868). Rare in Yorkshire.

Unconfirmed report from VC63 in Morley (1915) p77.

†VC61: Melbourne c1920s W.J.Fordham.

Dusona prominula (Förster, 1868). Rare in Yorkshire.

*VC62: Ashberry Pastures YWT NR 8.6.1980 W.A.Ely.

†VC63: Wharncliffe Wood 20.6.1979 A.Brackenbury.

Dusona pugillator (Linnaeus, 1758). Rare in Yorkshire.

Unconfirmed reports from VC63 in Carr (1914) p94 and from VC64 in Bairstow *et al.* (1882) p104, Bridgman & Fitch (1885) p19, Roebuck (1907) p214 and Morley (1915) p79.

†VC61: Allerthorpe Common 15.8.1948 D.H.Smith (det. J.F.Perkins).

Dusona recta (Thomson, 1887). Rare in Yorkshire.

†VC61: Kelsey Hill 5.1948 D.H.Smith.

*VC63: Thorne Moors NNR canals 24.6-14.7.1987 W.A.Taylor.

Dusona rugifer (Förster, 1868). Rare in Yorkshire.

*VC61: Hollym Carrs NR 7.6.2016 W.R.Dolling.

*VC62: Wass Bank 13.7.1989 A.Grayson.

†VC63: Mawson Green 5.9.1977 P.Skidmore.

Dusona sobolicida (Förster, 1868). Scarce in Yorkshire.

Recorded from VC61 in Fordham (1931) p356 and from VC65 in Ely (2011b) p222.

*VC63: Harden Moor, Keighley 2.8.1928 [R.Butterfield may have been the collector].

*VC64: Malham Tarn Fen 22.7.1987 W.A.Ely.

Dusona spinipes (Thomson, 1887). Rare in Yorkshire.

*VC62: Thornton-le-Dale 2-6.7.2007 P.J.Mayhew (det. K.Horstmann).

†VC63: Thorne Moors NNR 24.6-14.7.1987 W.A.Taylor.

Dusona stragifex (Förster, 1868). Rare in Yorkshire.

*VC61: Faxfleet 8.7.2015 R.Crossley.

*VC62: Ellerburn Bank YWT NR 4-8.7.2010 + 4-8.7.2011 P.J.Mayhew.

†VC63: Hainworth 18.6.1950 J.Wood.
 *VC64: Ox Close Wood, East Keswick 14.6.2014 P.Holmes.
 *VC65: Jetties Riverside Common, Brompton Bridge 1.7.2013 W.A.Ely.

Dusona subimpressa (Förster, 1868). Rare in Yorkshire.
 †VC61: Newbiggin, Westwood Pastures, Beverley 3.10.2014 W.A.Ely.

Dusona tenuis (Förster, 1868). Rare in Yorkshire.
 †VC62: Caydale 24.6.1984 W.A.Ely.
 *VC65: Black Mires, Arkengarthdale 24.8.2014 W.A.Ely.

Dusona terebrator (Förster, 1868). Frequent in Yorkshire.
 *VC61: Allerthorpe Common 24.5.1929 J.Wood.
 *VC62: Clifton Ings 4 + 15.5.1943 J.H.Elliott.
 †VC63: Marley 23.8.1926 J.Wood.
 *VC64: Horton-in-Ribblesdale 9.6.1930 J.Wood.

Dusona thomsoni Hinz, 1966. Rare in Yorkshire.
 Recorded from VC63 in Ely (2014d) p44.
 *VC62: Pickering ex *Lomasplilis marginata* on Aspen adult em.8.1995 C.Carter (det. K.Horstmann).
 *VC65: Foxglove Covert NR 2.8.2016 C.H.Fletcher.

Dusona vidua (Gravenhorst, 1829). Rare in Yorkshire.
 Recorded from VC64 in Hincks (1957) p21.

Dusona vigilator (Förster, 1868). New to Yorkshire.
 †VC63: Keighley 1916 R.Butterfield.

Meloboris collector (Thunberg, 1824). Rare in Yorkshire.
 Unconfirmed report from VC62 in Walsh & Rimington (1956) p278.
 †VC64: Malham Tarn 12.8.1955 + 22 + 25 + 27.7.1956 W.D.Hincks.

Eriborus dorsalis (Gravenhorst, 1829).
 Unconfirmed report from VC61 in Fordham (1926) p118.

Tranosemella praerogator (Linnaeus, 1858). Rare in Yorkshire.
 †VC63: Turnerwood 26.8.2002 W.A.Ely.

Enythus apostata (Gravenhorst, 1829). Scarce in Yorkshire.
 Recorded from VC61 by Fordham (1919) p70.
 *VC62: Dother Pits, Runswick Bay 9.6.1990 W.A.Ely.
 *VC63: Brecks Plantation, Listerdale 5.5.1985 W.A.Ely.
 *VC64: Airedale School, Skipton 29.8.2011 W.A.Ely.
 *VC65: Langton Wood 9.6.2011 W.A.Ely, M.Mckerchar.

Enythus neoapostata (Horstmann, 1969). Rare in Yorkshire.
 †VC62: Ravenscar 9.9.1989 W.A.Ely.
 *VC63: Norland ex *Agonapteryx assimilella* adult em. 6.6..2010 C.Street (det. K.Horstmann).

Diadegma aculeatum (Bridgman, 1889). Rare in Yorkshire.
 †VC63: Cromwell Bottom LNR 17.7.2013 W.A.Ely.

Diadegma angitiaeforma Horstmann, 1969. Rare in Yorkshire.
 †VC61: Cowden 11.9.2011 W.A.Ely.

Diadegma angulator (Aubert, 1963). Rare in Yorkshire.
 *VC61: St Helen's Well, Market Weighton 2.6.2011 W.A.Ely,
 *VC62: Beast Cliff 6.9.1986 W.A.Ely.
 †VC63: Keighley [BF] 6.9.1924 J.Wood.
 *VC64: Grass Wood YWT NR 8.6.2013 W.A.Ely.

Diadegma annulicrus (Thomson, 1887). Rare in Yorkshire.

†VC63: Sprotborough ex *Coleophora discordella* case adult em. 1-10.7.1984
H.E.Beaumont.

Diadegma armillatum (Gravenhorst, 1829). Scarce in Yorkshire.

*VC61: Skipwith Common YWT NR 13.8.1988 W.A.Ely.
*VC62: Pexton Moor 1-4.6.2015 P.J.Mayhew.
*VC63: Wharncliffe Wood 20.9.1978 A.Brackenbury.
†VC64: Austwick ex *Yponomeuta evonymella* em 6.7.1952 F.Hewson.
*VC65: Arkengarthdale ex *Yponomeuta evonymella* adult em. 30.7.1978 R.J.McAndrew
(det. K.Horstmann).

Diadegma brevipetiolatum Horstmann, 1969. Rare in Yorkshire.

†VC63: Asquith's Field, Brockdale YWT NR 26.8.2013 W.A.Ely.

Diadegma brevivalve (Thomson, 1887). Rare in Yorkshire.

†VC62: River Derwent, Kirkham Abbey 2.9.2013 W.A.Ely.

Diadegma combinatum (Holmgren, 1860). Rare in Yorkshire.

†VC64: Malham Tarn ex *Olethreutes palustrana* adult em. 12.6. 2003 R.J.Heckford
(K.Horstmann).

Diadegma chrysotictos (Gmelin, 1790). Rare in Yorkshire.

Unconfirmed report from VC62 in Flintoff (1925) p270 and Porritt (1926) p125.

†VC63: Firbeck 18.6.1977 D.Bailey.
*VC64: Cawood 6.1993 J.Payne.
*VC65: Northallerton Rigg 29.6.2013 W.A.Ely.

Diadegma crassicornis (Gravenhorst, 1829). Frequent in Yorkshire.

Recorded from VC61 in Hincks (1953) p136.

*VC62: woods at Malton Road crossing 13.5.1944 J.H.Elliott.
*VC63: Keighley 10.8.1918 [R.Butterfield].
*VC64: Askham Bog YWT NR 5.8.1950 J.H.Elliott.

Diadegma crataegi Horstmann, 1980. Scarce in Yorkshire.

Recorded from VC61 in Ely (2014c) p236.

*VC62: Middlesborough 7.8.2011 W.A.Ely.
*VC63: River Don, Holmes 26.9.1978 M.Crittenden,D.W.Twigg.
*VC64: Piney Moor Wood, Ellington Banks Training area 2.9.1989 W.A.Ely.

Diadegma duplicatum Horstmann, 1980. Rare in Yorkshire.

*VC61: North Cave Wetlands YWT NR 29.7.2015 R.Crossley.
†VC63: Bentley Common 23.6.1976 P.Skidmore.
*VC64: Little Ouseburn 3.7.2011 W.A.Ely.
*VC65: Nosterfield NR 19.7.2018 A.R.Godfrey.

Diadegma elishae (Bridgman, 1884).

Unconfirmed report from VC61 in Morley(1915) p184.

Diadegma erucator (Zetterstedt, 1838). Frequent in Yorkshire.

Unconfirmed report from VC64 in Wilson (1883) p109 and Roebuck (1907) p214.

+VC61: Bubwith c1920s W.J.Fordham.
*VC62: Ellerburn Bank YWT NR 4-8.7.2010 P.J.Mayhew.
†VC63: River Aire banks, Saltaire 6.1918 G.H.Rhodes.
*VC64: Meanwood 19.7.1984 W.A.Ely.
*VC65: Leyburn Glebe Field YWT NR 19.8.1982 W.A.Ely.

Diadegma exareolator Aubert, 1964. Rare in Yorkshire.

†VC61: Tunstall 18.6.2011 W.A.Ely.

Diadegma fabricianae Horstmann & Shaw, 1984. Uncommon in Yorkshire.

Recorded from VC64 by Parkinson (2015) p15.

- *VC61: Moor Lane, Milby 6.10.2013 W.A.Ely.
- *VC62: Saltwick Bay cliffs 27.6.2013 W.A.Ely.
- *VC63: Brampton Common 15.7.2000 W.A.Ely.
- *VC65: Thwaite, Swaledale 3.7.2013 + 23.6.2014 W.A.Ely.

Diadegma fenestrale (Holmgren, 1860). Uncommon in Yorkshire.

Unconfirmed report from VC61 in Morley (1915) p192 and from VC62 in Walsh & Rimington (1956) p279.

- *VC61: Howden Road, Ellerburn 20.6.1952 J.H.Elliott.
- *VC62: Stockingdale Farm 25.6.1983 W.A.Ely.
- *VC63: Holmehouse Wood 11.8 + 14.9.1930 J.Wood.
- †VC64: Sunnydale 25.9.1926 + 2.4.1928 + 3.8.1929 J.Wood.
- *VC65: Hawes 12.6.2013 W.A.Ely.

Diadegma grisescens (Gravenhorst, 1829). Rare in Yorkshire.

Recorded from VC61 (as *D. stagnale*) in Fordham (1926) p118.

Diadegma holopygum (Thomson, 1887). Rare in Yorkshire.

- *VC61: Cali Heath YWT NR 16.8.2015 R.Crossley.
- †VC62: Pickering 5.8.1945 J.H.Elliott.
- *VC65: Colsterdale 1.9.1984 W.A.Ely.

Diadegma hygrobium (Thomson, 1887). Scarce in Yorkshire.

- *VC62: Ashberry Pastures YWT NR 8.6.1980 W.A.Ely.
- †VC63: Newholme 4.7.1918 R.Butterfield.
- *VC64: Malham Tarn 23 + 28.7.1956 W.D.Hincks.
- *VC65: Birk Gill, Colsterdale 7.7.1984 W.A.Ely.

Diadegma laterale (Gravenhorst, 1829). Rare in Yorkshire.

- †VC62: Tranmire Bog, Wheeldale Moor 13.8.2013 R.Crossley.

Diadegma latungula (Thomson, 1887). Frequent in Yorkshire.

Recorded from VC65 in Newbould *et al.*, (2013) p57.

- *VC61: New Covert, Melbourne 4-11.9.2003 S.E.M.Fraser.
- *VC62: River Foss bank 11.6.1944 J.H.Elliott.
- *VC63: Bilham Quarry 28.7.1976 C.A.Howes.
- *VC64: Monk Wood, Kirkstall 27.6.1983 W.A.Ely.

Diadegma litorale (Holmgren, 1856). Rare in Yorkshire.

- *VC61: Clubley's Field, Spurn Point YWT NR 7.8.2012 R.Crossley.

- †VC63: Thrybergh CP 25.8.1987 W.A.Ely.

Diadegma majale (Gravenhorst, 1829). Frequent in Yorkshire.

Unconfirmed report from VC64 in Bairstow *et al.* (1882) p106, Roebuck (1907) p215 and Morley (1915) p191. Recorded from VC61 by Hincks (1953) p136.

- *VC62: Malton Road Crossing 18.6.1952 J.H.Elliott.
- *VC63: Blind Lane, Bingley St Ives 7.1918 G.H.Rhodes.
- *VC64: Sunnydale 25.9.1926 + 24.8.1928 + 3.8.1929 J.Wood.
- *VC65: Hutton Conyers 4 + 7.10.2013 + 6.8.2016 C.H.Fletcher.

Diadegma naryciae Horstmann, 2008. Rare in Yorkshire.

Recorded from VC64 by Parkinson (2015) p16 and Shaw & Horstmann (2016) p200.

Diadegma neomajale Horstmann, 1969. Rare in Yorkshire.

- *VC61: Tophill Low NR 7.7.2012 W.A.Ely.
- *VC62: Haxby 1.7 + 20.8.2015 T.J.Crawford.
- *VC63: Maltby Low Common YWT NR 8.9.1984 W.A.Ely.

†VC64: Malham Tarn Fen 22.7.1984 W.A.Ely.

Diadegma ruficeps (Holmgren, 1860). Scarce in Yorkshire.

Recorded from VC62 by Crossley (2011) p210.

*VC61: Barmby Moor 1.7.1945 J.H.Elliott.

*VC63: Rockley Dike carr, Worsbrough CP 14.7.1985 W.A.Ely.

*VC64: Colt Park 19.10.2013 T.M.Whitaker.

*VC65: Hutton Conyers 20.7.2015 C.H.Fletcher.

Diadegma semiclausum (Hellén, 1949).

Unconfirmed report from VC61 in Morley (1915) p198.

Diadegma sordipes (Thomson, 1887). Scarce in Yorkshire.

Unconfirmed report from VC62 in Morley (1915) p186.

*VC61: Brow Plantation, Potter Brompton 21.6.1986 W.A.Ely.

*VC62: Caydale 24.6.1984 W.A.Ely.

*VC63: Thorpe Hesley 31.7.2002 W.A.Ely.

†VC64: Knaresborough Ringing Station 21.5.1983 W.A.Ely.

*VC65: Beverley Wood, Northallerton 29.6.2011 W.A.Ely.

Diadegma stagnale (Holmgren, 1856). Rare in Yorkshire.

*VC61: Clubley fields, Spurn Point YWT NR 7.8.2012 R.Crossley.

†VC63: Thrybergh CP 6.9.1980 + 23.8.2000 W.A.Ely.

*VC65: Nosterfield NR 19.7.2018 A.R.Godfrey.

Diadegma stigmatellae Horstmann, 1980. Scarce in Yorkshire.

*VC61: Bainton 2.6.2011 W.A.Ely.

*VC62: Pexton Bank YWT NR, Dalby Forest 10-12.6.2014 P.J.Mayhew.

†VC63: Holmehouse Wood 12.7.1925 + 27.7.1930 J.Wood.

*VC64: Malham Tarn Fen 5.2013 P.W.H.Flint, S.Flint.

Diadegma trochanteratum (Thomson, 1887). Rare in Yorkshire.

*VC61: Dimlington cliffs 14.8.2013 W.A.Ely.

†VC63: Langsett 30.6.1985 D.Maude.

Diadegma truncatum (Thomson, 1887). Scarce in Yorkshire.

†VC61: Allerthorpe 6.7.1951 + 11.5.1952 J.H.Elliott.

*VC62: Scar Wood Woodland Trust NR 7.9.1986 W.A.Ely.

*VC63: Bentley Tilts 5.5.1976 P.Skidmore.

*VC64: Sharp Hill, Drax 21.7.1987 W.A.Ely.

*VC65: Gillfield Wood 7.5.1989 W.A.Ely.

Hyposoter albonotatus (Bridgman, 1889). Rare in Yorkshire.

†VC62: nr Wass ex *Hypena proboscidalis* adult em. 23.6.2003 B.Groble (det. K.Horstmann).

Hyposoter carbonarius (Ratzeburg, 1844).

Unconfirmed unlocalised report in Porritt (1925) p87.

Hyposoter didymator (Thunberg, 1824). Rare in Yorkshire.

Unconfirmed unlocalised report in Roebuck (1907) p214.

*VC62: Wass ex *Acronicta rumicis* adult em. 7.1976 Heron,T.H.Ford (det. K.Horstmann).

†VC63: Sheffield ex *Lycophota varia* adult em. 11.9.1973 T.H.Ford (det. K.Horstmann).

Hyposoter dolosus (Gravenhorst, 1829).

Unconfirmed report from VC64 in Morley (1915) p111.

Hyposoter notatus (Gravenhorst, 1829).

Unconfirmed report from VC62 in Walsh & Rimington (1956) p279 and from VC63 in Porritt (1925) p87.

Hyposoter obscurellus (Holmgren, 1860).

Unconfirmed report from VC61 in Fordham (1919) p70.

Hyposoter placidus (Desvignes, 1856). Rare in Yorkshire.

Recorded from VC64 in Parkinson (2015) p17.

Hyposoter virginalis (Gravenhorst, 1829).

Unconfirmed report from VC64 in Wilson (1883) p109 and Roebuck (1907) p214.

Phobocampe bicinctata (Gravenhorst, 1829). Scarce in Yorkshire.

Recorded from VC63 in Ely (2014d) p44.

*VC61: Allerthorpe Common YWT NR 5.8.1989 W.A.Ely.

*VC62: Fen Bog YWT NR 15.7.2015 R.Crossley.

*VC64: Halton, Leeds 7.6.1926 + 29.5.1927 W.J.Fordham.

Phobocampe crassiuscula (Gravenhorst, 1829).

Unconfirmed reports from VC62 in Walsh & Rimington (1956) p278 and from VC64 in Hincks (1942) p172.

Phobocampe pulchella (Thomson, 1887). Rare in Yorkshire.

*VC61: Allerthorpe Common 5.8.1989 W.A.Ely.

†VC64: Ash Wood, Drax 27.7.1987 W.A.Ely.

Phobocampe tempestiva (Holmgren, 1860). Rare in Yorkshire.

†VC64: Ash Wood, Drax 27.7.1987 W.A.Ely.

Phobocampe unicincta (Gravenhorst, 1829).

Unconfirmed unlocalised report in Roebuck (1907) p214.

Olesicampe argentata (Gravenhorst, 1829).

Unconfirmed report from VC62 in Walsh & Rimington (1956) p279.

Olesicampe fulviventris (Gmelin in Linnaeus, 1790).

Unconfirmed report from VC61 in Fordham (1931) p356.

Olesicampe longipes (Müller, 1776).

Unconfirmed report from VC64 in Bairstow *et al.* (1882) p106 and Roebuck (1907) p214.

Olesicampe sericea (Holmgren, 1855).

Unconfirmed report from VC61 in Fordham (1929) p375.

Lathrostizus lugens (Gravenhorst, 1829). Rare in Yorkshire.

†VC61: Thorpe Hall, Rudston 15.7.1989 W.A.Ely.

The YNU records of Campopleginae have been compiled as follows:

Decade	Species	Records	Records/Species	Collectors
1860-1869	2	2	1	1
1880-1889	17	17	1	3
1890-1899	6	6	1	3
1900-1909	7	7	1	3
1910-1919	24	36	1.5	8
1920-1929	32	71	2.2	7
1930-1939	9	14	1.6	2
1940-1949	15	25	1.6	5
1950-1959	15	34	2.2	5
1970-1979	40	107	2.7	20
1980-1989	71	264	3.8	23
1990-1999	28	48	1.7	9
2000-2009	48	112	2.4	16
2010-2019	86	563	6.5	38

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YNU Excursion Reports 2019

Stockton Hermitage (VC62) 18 May 2019

INTRODUCTION (Tony Wardhaugh)

Twelve members attended the field meeting on a day when rain was forecast but which remained very largely dry although overcast. The concluding meeting was held on site and was attended by six members representing nine affiliated societies. A vote of thanks was given to the landowner for permission to hold what had been an interesting meeting on his estate.

BOTANY (Angela Wheatcroft)

Much of the area is mixed woodland, apart from a marshy field near the house. The two ponds found within the woodland appeared to have been created relatively recently. Elsewhere on the site, ditches, some of them over 2m (6 feet) deep, drain water off the land. A council rubbish dump is located along part of the northern boundary. It is no longer active, but rises about 3m (10 feet) above the surrounding land and is bordered by a well-used hardcore service track and a drainage ditch.

None of the plants recorded is uncommon or rare. Three were found which occur only in acid soils, usually sandy soils. These are Green Ribbed Sedge *Carex binervis*, Pill Sedge *C. pilulifera* and Bog Pimpernel *Lysimachia tenella*. The last occurred as a small colony. Although it is not classified as a rare plant, it was the rarest plant found that day. It is known to also occur on Strensall Common nearby.

PLANT GALLS (Tom Higginbottom)

On the mature oak trees there were galls from the previous year. Gall wasps had caused the Ramshorn *Andricus aries*, Artichoke *A. foecundatrix*, Marble *A. kollari* and Cola-nut Galls *A. liginicolus*. During searches throughout the wood new galls were discovered: seven examples of the Oak Apple gall *Biorhiza pallida* and four of the Currant Gall *Neuroterus quercusbaccarum*. After considerable searching tiny egg-shaped galls with a ridged surface *A. quadrilineatus* were found on oak catkins. On some leaves there were a number of examples of a psyllid galler *Trioza remota*, which raises small pimples on the leaf surface with a depression below, where the small disk of the psyllid can be seen. Three different mite galls were discovered on the Alder *Alnus glutinosa* leaves. Pale coloured bulges on the upper surface with erineum in the depressions below indicated the presence of *Acalitus brevitarsus*; small pimples over the leaf surface were caused by *Eriophyes laevis* and pimples in the vein angles indicated the presence of *Aceria nalepai*. In some areas the presence of the Alder Beetle which devours leaves between the leaf veins could mean that these galls may decline. On some of the birch trees were examples of the fungal gall witches' broom *Taphrina betulina*. On neighbouring trees there were a number of 'big bud' *Acalitus calycophthirus* caused by the mite which swells and enlarges the bud. The most striking of the mite galls *Acalitus longisetosus* covers the upper surface of the leaf in bright red erineum hairs. Leaves of the Beech *Fagus sylvatica* trees were galled by two different mites: *Acalitus stenaspis*, which rolls the edge of the leaf, and *Aceria nervesequa*, which has two different features and both were present, erineum between the veins on the underside of the leaf and white erineum along the veins of the upper side of the leaf. On the sallows, globular ovoid swellings indicated the presence of a sawfly galler *Pontania bridgmanii* and a series of

domed pimples *Iteomyia capreae* were caused by a midge. A midge galler *Dasineura kiefferiana* was discovered rolling the edge of the leaf of Rosebay Willowherb *Chamerion angustifolium*.

COLEOPTERA (Tony Wardhaugh)

Five common ground beetles (Carabidae) were recorded on the estate and also *Silpha atrata* (Silphidae), a specialist snail predator. Richard Shillaker found a female click beetle *Melanotus villosus/castanipes* agg. (Elatridae) beneath bark, kindly confirmed by Bob Marsh, Yorkshire Coleoptera recorder. The soldier beetle *Cantharis livida* (Cantharidae) was noted by Peter Mayhew.

LEPIDOPTERA (Terry Crawford)

Given the rather poor conditions for Lepidoptera, only six species of butterfly were recorded, mainly Pieridae appearing briefly in sunny periods. These were augmented by a small number of day-flying moths, notably by no fewer than three species of Adelidae ('Longhorn' moths) that caught sufficient sunshine to visit flowers or perform their dancing up and down in groups. Peter Mayhew saw and photographed the superficially similar Small Yellow Underwing moth (also a day-flier) and a Dingy Skipper butterfly (see Figure 1).

OTHER ARTHROPODS (Tony and Moira Wardhaugh)

Four woodlouse, three millipede and two centipede species were recorded on the estate. All are widespread and common except for the centipede *Cryptops hortensis*, which occurs in both woodland and gardens. Three individuals were found, all beneath coarse woody debris in mixed woodland. More common in the south of Britain, records of this centipede in Yorkshire are few.

CONCHOLOGY (Adrian Norris)

Four members of the Yorkshire Conchological Society attended this meeting. Twenty-one common molluscs were located, eight of which were slugs. This is a good total for what appears to be a predominantly acidic site. It was noticeable that many of the molluscs were probably introduced as about half originated from the surrounding area, including the old rubbish tip. The pools appeared to have no freshwater molluscs and the few main drains were very deep, steep-sided and thus difficult to examine in detail.



Figure 1. Small Yellow Underwing moth.



Dingy Skipper butterfly.

P.J. Mayhew

FRESHWATER BIOLOGY (Richard Shillaker)

Seven ponds were noted. They ranged from an unshaded grassland pond to heavily shaded woodland ponds and a very recently constructed pond with bare banks. I concentrated on a small, well vegetated pond in the corner of a sheep field and a large woodland pond in a clearing which, in spite of limited shading, seemed to contain little aquatic vegetation apart from Spike Rush *Eleocharis* sp. and Common Reed *Phragmites australis*.

At the sheep field pond, elongated oval-shaped holes in the floating leaves of *Potamogeton natans* suggested the presence of aquatic caterpillars of the Brown China-mark Moth *Elophila nymphaeata*; this was confirmed by opening up a case formed from a cut out leaf fragment attached to the underside of a leaf. Interestingly, the larva of a soldier fly (with a flattened shape and distinctive caudal bristles arranged like spokes of an umbrella) also appeared to have been present in the caterpillar case. This was possibly a chance occurrence rather than an example of regular cohabitation because I have not been able to find any reports of the latter. Numerous small holes in the aerial leaves of an aquatic *Persicaria* were attributed to feeding by the leaf beetle *Galerucella sagittariae* (identification of collected specimen confirmed by Bob Marsh). Mating pairs of the beetle and yellow eggs masses were noted. Numerous damselfly larvae were found by pond netting and two exuviae were collected from emergent vegetation, which provided proof of successful breeding. I concluded that all the larvae and exuviae which I examined closely were Azure Damselflies *Coenagrion puella* rather than the very similar Variable Damselfly *C. pulchellum* (the latter would anyway not be expected at this location). Unfortunately, no adult Odonata were seen near the pond to corroborate this proposed identification. Other pond-net findings included numerous corixid nymphs and several adult Saucer Bugs *Ilyocoris cimicoides*.

Observations at the large woodland pond were completely different. The Odonata recorded were: Four-spotted Chaser *Libellula quadrimaculata* (one teneral), Blue-tailed Damselfly *Ischnura elegans* (one adult and several larvae) and a darter *Sympetrum* sp. larva. The presence of a c.7cm long Water Stick Insect *Ranatra linearis* was notable. Other findings included *Dytiscus* beetle larvae and female otter spiders *Pirata* sp. with egg sacs.

FISH AND AMPHIBIANS

Three-spined Stickleback, Common Frog and Common Toad were seen.

BIRDS

Twenty bird species were noted during the day, the most interesting being Curlew and Cuckoo, the latter being heard calling intermittently near to the estate.

CONSERVATION

Dead timber, both standing and fallen, is abundant on the estate and undoubtedly of significant value to wildlife. Ponds in the woodland are somewhat shaded in places and might benefit from some thinning of the adjacent tree canopy.

Edlington Pit Wood (VC63) 22 June 2019

INTRODUCTION (Joyce Simmons)

A warm and sunny day greeted the 18 YNU members and friends in the car park of the community woodland of Edlington Pit Wood. Participants included representatives of 6 affiliated societies to YNU. Most of the group followed a path into Edlington Wood SSSI, a Magnesian Limestone area with some exposed crags and many mature trees. Here we found Opposite-leaved Golden Saxifrage *Chrysosplenium oppositifolium* and Spurge-laurel *Daphne laureola* before returning to the meadow-land of the restored colliery site. Oxeye Daisies *Leucanthemum vulgare* (see Figure 1, p220), Pyramidal Orchids *Anacamptis pyramidalis* and Bee Orchids *Ophrys apifera* in full bloom carpeted the hillsides. Round-fruited Rush was located beside one of the pools.

Lepidopterists were rather disappointed in the small number of species encountered, and though some plant galls were found it was rather early in the season for finding most galls. The lichens present are indicative of polluted air of this site which neighbours urban areas and therefore the variety was limited. An interesting spider was Labyrinth Spider *Agelena labyrinthica* which is spreading steadily north through South Yorkshire. Its funnel webs are easy to recognise in brambles and similar tall vegetation (see Figure 2, p221).

Members recommend that the site is periodically mown to maintain the grassland, otherwise scrub will rapidly cover the area. Grazing would achieve similar ends, but this is impractical on this site with no fencing and constant public access. The planted woodland areas are well grown and are now dense with no clearings and so would benefit from thinning. However, financial support for management is limited, though we hope the site will continue to develop.

The reporting meeting, held in Wadworth Village Hall, allowed us to visit the excellent churchyard of Wadworth. An area is being managed with a late summer mowing to allow the flowering of an array of limestone plants including Bee and Common Spotted Orchids.

LICHENOLOGY (Mark Seaward)

Although much of the reserve supported a poor lichen cover, on the one hand there were hints of its former diversity such as the presence of species characteristic of mature spoil heaps, and on the other hand, trees that were developing a ubiquitous epiphytic lichen community indicative of a new atmospheric pollutant, namely nitrogen. Two hundred years ago, the mature deciduous trees at this site would have supported rich lichen assemblages but, as a consequence of atmospheric pollution derived from industrial sources, these disappeared. Here and there younger trees on the reserve now show some recovery by former epiphytes, such as *Lecanora chlorotera* and *Lecidella elaeochroma*, but the bark of older trees that was acidified by these pollutants do not. On the fringes of the wooded areas both deciduous and coniferous trees are clothed with gold and silver epiphytes, namely *Xanthoria parietina* and *Physcia* s.lat. species respectively, that thrive on the nitrogen content of their environment, often in excessive amounts (e.g. hypertrophication) derived from a variety of agricultural and industrial sources. Evidence of this pollutant is also demonstrated by those lichens colonizing man-made surfaces, the artificial fencing encountered at the start of the meeting supporting ten species on the tops of only two upright posts (covering an area of no more than 20 x 10 cm in total) – almost as many species as seen on the trees later that day.



Figure 1. A view towards Doncaster city centre over the east side of the Edlington Pit Wood site, showing part of the area which was covered by Oxeye Daisies *Leucanthemum vulgare*.

P. Simmons

Of particular interest was the embankment of a ditch stretching from east to west that in three places supported terricolous lichen communities. At two of these, a 'Lilliputian forest' of mainly *Cladonia furcata*, *C. rangiformis* and *C. subulata* was indicative of an undisturbed habitat; at the third, however, disturbance had destroyed much of the lichen cover, but scattered patches of *C. cariosa*, *C. furcata*, *C. rangiformis* and *Peltigera rufescens* were indicative of a former lichen community dictated by the substratum, currently being invaded by birch. The lichens here, and indeed at the other two sites, reflected the complex physical and chemical nature of not only the spoil heap derived from former mining practices but also the underlying Magnesian Limestone.

All-in-all, in terms of the variety of habitats investigated (woodland, exposed rock, mining spoil heaps and fencing), less than 40 lichen species were noted on the reserve. However, although a disappointing total, it provides a useful baseline for future investigations that will undoubtedly demonstrate the effectiveness of continued atmospheric amelioration and hopefully conservation measures undertaken there.

BOTANY (Kay McDowell)

Our first special plant was next to the car park; the yellow buds of Wild Parsnip *Pastinaca sativa* were just coming into flower. We walked down to a pond containing some Grey Club-rush *Schoenoplectus tabernaemontani* and continued into the SSSI woodland and up to the limestone crags to see Hard Shield-fern *Polystichum aculeatum*, which was growing next to Yellow Archangel *Lamiastrum galeobdolon*. Opposite-leaved Golden Saxifrage, a rare plant in the Doncaster area, was found growing on the damp limestone. Giant Bellflower *Campanula latifolia* and Spurge-laurel *Daphne laureola* were also recorded.

Another uncommon plant - Spiked Sedge *Carex spicata* - was growing near some flowering Scarlet Pimpernel *Anagallis arvensis* agg. Further on we recorded the hybrid *Dactylorhiza x grandis* between Common Spotted Orchid *D. fuchsii* and Southern Marsh Orchid *D. praetermissa*,

Figure 2. A funnel web of Labyrinth Spider
Agelena labyrinthica. J. Simmons



as well as hundreds of Bee Orchids and lots of Pyramidal Orchids growing amongst the acres of Oxeye Daisies. Silver Hair-grass *Aira caryophyllea* was found in another pond as well as Common Stonewort *Chara vulgaris* (identified by Don Grant). On the edge of the pond was another puzzle which led to discussion as to whether it was the alien Slender Rush or the rare Round-fruited Rush *Juncus compressus* which has been recorded here before. It was not yet in fruit so a sample was taken to determine it. Louise Hill has since verified Round-fruited Rush.

Next we came across Broad-leaved Everlasting Pea *Lathyrus latifolius*, which made a great show climbing up a deer fence. John Scott spotted Sweet Briar *Rosa rubiginosa*. Walking down the hill we saw Hawkweed Oxtongue *Picris hieracioides* which is less common in this area than Bristly Oxtongue *Helminthotheca echinoides*. Growing not far away was Hairy St. John's-wort *Hypericum hirsutum* which was also in flower. In the wet grassy area there was a number of orchid hybrids *Dactylorhiza x grandis* and a white-flowered Common Spotted-orchid.

We crossed the bridge over the road onto the spoil heap which had never had topsoil spread on it. Here we saw an interesting mix of plants including the acid-loving Sheep's Sorrel *Rumex acetosella* growing near Carline Thistle *Carlina vulgaris*, which prefers calcareous grasslands. Also noted were Lesser Hawkbit *Leontodon saxatilis*, Thyme-leaved sandwort *Arenaria serpyllifolia*, Buck's-horn Plantain *Plantago coronopus* (usually found near the sea) and Ploughman's Spikenard *Inula conyzae*.

PLANT GALLS (Tom Higginbottom)

Birch and oak were common on open spaces at the edge of appealing meadow areas. Surprisingly, no galls were discovered on either tree. The psyllid gall *Psyllopsis fraxini*, which rolls the edge of Ash *Fraxinus excelsior* leaves and in spring has a reddish tint, making it more easily visible, was the most common gall seen during our visit. The leaves of sallows were host to a variety of galls: the small pimples of the mite gall *Aculus laevis*, the midge gall *Iteomyia major* which make irregular bumps on the leaves, and the sawfly gall *Eupotania pedunculi*, detected by a small scar on the upper leaf surface, with an occasionally hairy, small sphere on the underside. Field Maple *Acer campestre* had been planted on the old coal tip but no galls were found though in the old hedgerows three mite galls were discovered: *Aceria macrochela*, *A. myriadeum* and *A. eriobia*. Spindle *Euonymous europaeus* was also frequent; the edges of many leaves had been rolled by the mite *Stenacis euonymi*. Common Reed was seen frequently around ponds and marshy ditches. It took much searching before finally discovering the fly gall *Lipara lucens*, distinctly swelling the stem. It was interesting to find the gall fungus *Puccinia*

phragmites causing red spots on the leaves of Broad-leaved Dock *Rumex obtusifolius*. Common Reed is an alternate host for this fungus. It was reported that there was a huge swelling on the trunk of a mature Beech. This may have been caused by the bacterium *Agrobacterium tumefaciens*.

LEPIDOPTERA (Harry Beaumont and Paul Simmons)

The warm and sunny weather was very suitable for butterfly activity, so it was disappointing that so few were seen. Eight were recorded, with a single Ringlet and only Meadow Brown being numerous. Except for a couple of Brimstones all the whites were notable by their absence, which seemed to be regional in extent. The only Vanessids were a number of Painted Ladies, reflecting their national abundance in what seems to be a major immigration year. Lycaenids were represented by small numbers of Small Copper, Brown Argus and Common Blue, whilst the only skipper visible at this stage of the year was a single Large Skipper.

Several day-flying moths were also seen. Common grass moths (Garden Grass-veneer *Chrysoteuchia culmella*, Inlaid Grass-veneer *Crambus pascuella*, Hook-streak Grass-veneer *C. lathionellus* and Satin Grass-veneer *C. perlella*) were reasonably numerous. Cinnabar and Yellow Shell were the most obvious macro-moths, but small numbers of both Common Heath and Latticed Heath were present, and a single Large Yellow Underwing was disturbed from vegetation. Other micro-moths included Bordered Marble *Endothenia marginana*, Obscure Drill *Dichrorampha aeratana* (a local moth whose larval foodplant is Oxeye Daisy, present in huge quantities on this site), Common Drill *D. petiverella* and Twin-barred Knothorn *Homoeosoma sinuella*..

Other insects

With no other specialist entomologists with us, the following were recorded, principally by Peter Mitchell and Paul Simmons:

Odonata present in one or both of the ponds were: Blue-tailed Damselfly *Ischnura elegans*, Azure Damselfly *Coenagrion puella*, Large Red Damselfly *Pyrrosoma nymphula* and Four-spotted Chaser *Libella quadrimaculata*. Spotted Longhorn Beetle *Rutpela maculata* and Swollen-thighed Beetle *Oedemera nobilis* were found, as was Hairy Shield Bug *Dolycoris baccarum*.

BIRDS (Paul Simmons)

The mixture of different habitats provided opportunities for a range of birds. Wooded areas supported both Green and Great-spotted Woodpeckers as well as Willow Warblers, Chiffchaffs and Blackcap. The ponds had sufficient reed growth for a Sedge Warbler and Whitethroats, and one had a Little Grebe. Scrubby areas held Bullfinches and Yellowhammer, and a pair of Grey Partridge was seen in the more open areas. House Martins, Swallows and a Buzzard were flying above them all.

MAMMALS (Colin Howes)

Bats: No ultrasound bat passes at 45kHz or 20kHz were detected on the surrounding roadways of Broomhouse Lane, Springwell Lane, Alverley Lane and Wood Lane, from 10 to 12 pm on the still, clear, cool (9°C) evening of 21 June. Perhaps it was too chilly. Normally these thickly hedged lanes are busy with feeding bats.

Badger: Fresh activity in the form of many trackways through the herb layer of the ancient

wood and fresh scratchings where soil invertebrates had been unearthed. A fresh footprint was by a muddy puddle on one of the unmade roadways of the colliery tip/country park.

Fox: Scent marks detected near the crags and at the western end of the Wood Lane hedgerow.

Roe Deer: Footprints seen in mud around ponds and two deer were disturbed from a reed bed.

Grey Squirrel: Single specimens seen foraging on the ground in Edlington Wood.

Mole: Hills and tunnels in the herb layer of the ancient wood.

Rabbit: Latrines (accumulations of droppings) were located at intervals along the Country Park trackways.

Domestic animals

Dogs: The Country Park is a well-used dog walk. At least 14 dogs were counted during the morning session. Their ecological impact took the form of occasional disturbance of vertebrates e.g. two Roe Deer, and the contribution of dog faeces, this substrate forming a food source for communities of dung-feeding Coleoptera, Diptera and Fungi ... therefore not to be sniffed at.

Horses: Footprints showed that equestrians ride horses around the unmade trackways and horse droppings were forming a food source for communities of dung-feeding Coleoptera, Diptera and Fungi.

Other observations

Wood Lane, running from Stump Cross, forms an ancient way to Edlington Wood from the east. It is species-rich with respect to its tree and shrub component. The final 50m stretch before it links with Edlington Wood contained the following 14 species: Ash, Blackthorn *Prunus spinosus*, Dog Rose *Rosa canina*, Dogwood *Cornus sanguinea*, Elder *Sambucus niger*, elm, Field Maple, Hawthorn *Crataegus monogyna*, Hazel *Corylus avellana*, Holly *Ilex aquifolia*, Wild Privet *Ligustrum vulgare*, Spindle, Sycamore *Acer pseudoplatanus*, Yew *Taxus baccata* and climbers included Ivy *Hedera helix* and Honeysuckle *Lonicera periclymenum*. Wild Service Tree *Sorbus torminalis* and Midland Hawthorn *Crataegus laevigata* are known from the hedge but weren't located during this visit.

The YNU visited the area in September 1891 which was long before the area was subsumed under the spoil heap of the now defunct colliery. That group did pay a visit to the newly-sunk shaft for Cadeby Colliery and actually went down the mine of Denaby Main Colliery. Their findings have little in common with those of this meeting, Spurge-laurel being the only species mentioned in both reports. A very long list of fungi was found in 1891, which was in September.

High Batts (VC64) 13 July 2019

INTRODUCTION (Ken White)

Alwin Knowle from the High Batts Board of Trustees kindly requested and arranged our YNU visit to the High Batts Private Nature Reserve, and the fine summer weather of June and early July continued into our chosen weekend. Charlie Fletcher and Terry Whitaker of the Yorkshire Moth Group organised the moth session the night before. 13 YNU members attended the day session together with 6 High Batts members, and the afternoon meeting in the nearby North Stainley Village Hall was attended by 8 members representing 9 affiliated societies. A huge vote of thanks was offered to Colin Slator, Chair of the High Batts Trustees, for making everything possible on site, including helping to set out the extensive array of moth traps the

night before, and to Norton Conyers Estate for their help in granting access to the site. Special thanks to Terry Whitaker for all his help with the preparation and planning of the mothing-team for the day.

The reserve was established in 1973 by the Charity Trustees of High Batts and granted SSSI status in 1983 as part of the Ripon Parks SSSI. It is comprised of a steep river terrace grading down to the banks of the River Ure and has been very effectively managed as a combination of mixed woodland and open clearings.

GEOLOGY/ GEOMORPHOLOGY (Ken White)

The gently undulating local landscape is made up of calcareous sediments from the former Permian and Triassic Zechstein Sea (272 – 237 million years ago), which was an area of marine to brackish shallow sub-tropical estuaries and shorelines with lagoons and coral reefs. Several phases of gentle uplift have created NW-SE trending bands of varying hardness and resistance to erosion; softer mudstones have provided the easier substrate for the River Ure to carve out, bounded on both sides by the harder Lower Magnesian Limestones (now called Dolostone) forming the Cadeby Formation to the west and the harder Upper Magnesian Dolostones forming the Brotherton Formation to the east. The river valley was extensively infilled with Quaternary Ice Age river terrace deposits which are currently being quarried, clast size ranging from sand and gravel up to large rounded boulders. Smeared over the higher ground is a veneer of more recent glacio-fluviatile drift, a mixture of clays, sands and gravels from the surrounding higher ground. This has led to a wide range of different soil types which, together with the River Ure, the small streams issuing out from the High Batts terrace and recently created ponds, has led to a diverse range of habitats in the comparatively small area of 32 acres (12.8ha).

BOTANY (Sarah White and Judith Allinson)

The reserve was looking extremely colourful, with the eastern footpath bordered by a profusion of *Campanula latifolia* together with Pyramidal Orchids.

At the northern end was a striking patch of Viper's Bugloss *Echium vulgare* which included a single stem of the white-flowered form. The abundance of Common Rock-rose *Helianthemum nummularium* and Clustered Bellflower *Campanula glomerata* in the clearings was also particularly notable.

We were privileged to be shown a number of impressive specimens of the Thistle Broomrape *Orobanche reticulata* ssp. *pallidiflora* (see Figure 3), a speciality not only of Yorkshire but of this area in particular. Management work by the reserve team provides disturbed ground for the host plant Creeping Thistle *Cirsium arvense* to colonise.

No attempt was made to record plants over the whole reserve – this would have been an impossible task given the richness and diversity of the habitats – moreover the reserve is already extremely well recorded. We were asked, however, to help with updating the species lists for some

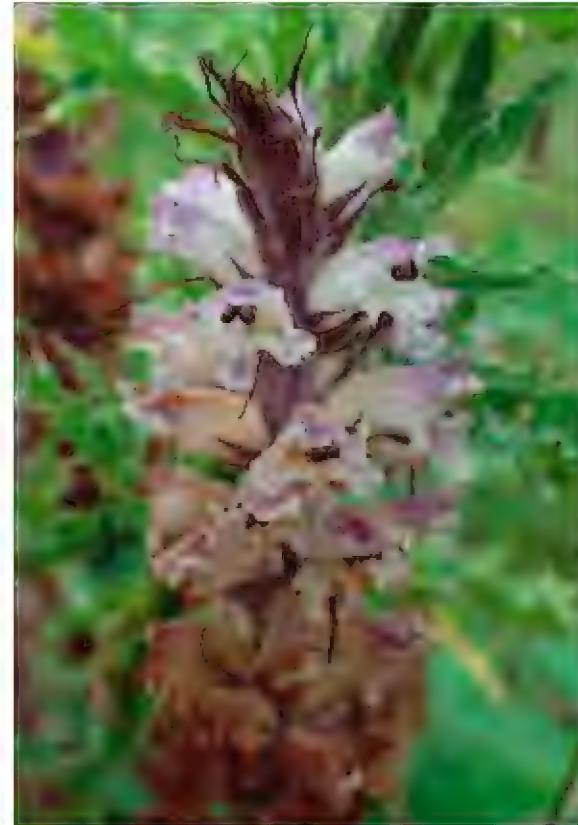


Figure 3. Thistle Broomrape
Orobanche reticulata K.White

of the clearings, which provided an ideal focus for the YNU botanists. Even with this reduced survey area, time didn't allow us to complete all of the clearings, so we concentrated on Hall's Clearing and The Scrape. Our list of around 70 species for these clearings is an indication of the richness of the site; indeed grasses were a rarity here, with flowering plants dominating the plant cover.

The management/maintenance team are only too well aware of the invasion of Burnet Rose *Rosa spinosissima*, the abundance of which threatens the rich sward of the clearings, and the ongoing problem with Himalayan Balsam is still an important issue for the moment, but maybe there is a chance of managing it in the future with biological control.

PLANT GALLS (Visit & report for 18.09.2019 Tom Higginbottom)

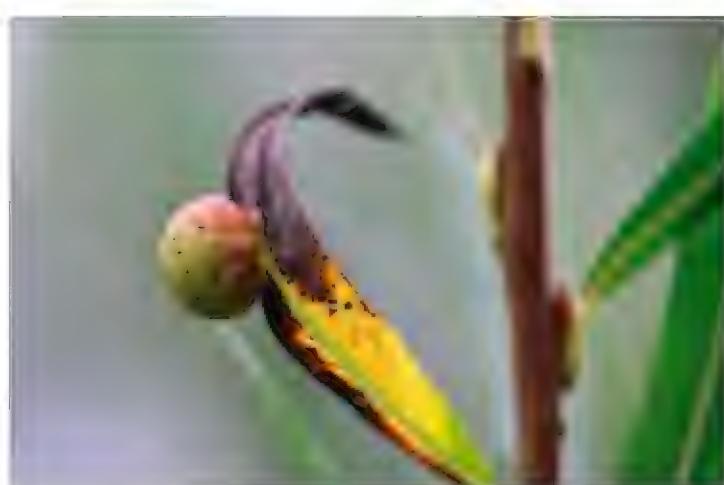


Fig 4. The gall *Eupontania viminalis* on Osier leaf.
T. Higginbottom

The three different mite galls *Acalitus brevitarsus*, *Aceria nalepai* and *Eriophyes laevis* were seen frequently on Alder leaves. Some leaves had been lightened in colour and appeared slightly enlarged by the effect of the fungal gall *Taphrina tosquinetii*. The tongue-like growth of another fungal gall *T.alni* was discovered on female alder cones. It was interesting to see oaks galls which appear to have been moving northwards. On dormant buds beside epicormic shoots small clusters of *Andricus gemmeus* were discovered. There were old and new examples of the tapering projections of the ramshorn gall *A. aries*. Osier leaf rolls formed by the midge *Rabdophaga marginemtorquens* were frequently seen. The more uncommon sawfly gall *Eupontania viminalis* was discovered on a single leaf (see Figure 4) Spindle trees had the edges of many leaves rolled by the mite *Stenacis euonymi*. The orange-yellow aecia of *Phragmidium rosae-piminellifolia* were common on Burnet Rose and rounded galls of the wasp *Diplolepis spinosissimae* were often seen. The highlights of the day were the variety of galls on herbaceous plants. Many Marjoram plants were covered in the felt white hairs of the mite *Aceria labiatiflorae* and there were thickened shoot tips formed by the aphid *Aphis origami*. Pairs of leaves at the shoot tips of Common Rock-Rose had been thickened by the midge *Dasineura helianthemi*. Colonies of Germander Speedwell *Veronica chamaedrys* were affected by the hairy pouches of the midge *Jaapiella veronicae*.

The midge *Dasineura serotina* had swollen the leaves of Slender St. John's-wort *Hypericum pulchrum*. Three different galls were discovered on Ground Ivy *Glechoma hederacea*: the hairy globular swellings on leaves caused by the wasp *Liposthenes glechomae*, the midge *Rondaniola bursaria* had formed the lighthouse gall and many leaves had been affected by the fungal gall *Puccinia glechomatis*. There were fungal galls on a variety of hosts. Reddish raised areas on leaves of Enchanter's Nightshade *Circaeae lutetiana* were caused by the rust *Puccinia circaeae*. *Uromyces geranii* had caused brown swellings on leaves of Meadow Crane's-bill *Geranium*

pratense. There were distortions on leaves of Salad Burnet *Sanguisorba minor* formed by *Phragmidium sanguisorbae*. Various lumps were seen on Wood Sage *Teucrium scorodonia* leaves formed by *Puccinia annularis*. On Sweet Violet *Viola odorata* brown masses indicated the presence of *Urocystis violae*.

BEES & WASPS (Andy Millard)

The plants in flower on the reserve attracted four of the common species of bumblebee (*Bombus pascuorum*, *B. lucorum* agg., *B. terrestris* and *B. lapidarius*) with significant numbers of the cuckoo *B. vestalis* on Viper's Bugloss at the northern end of the reserve. No Tree Bumblebees *B. hypnorum* were observed. Of some interest was the Silver Birch *Betula pendula* area towards the north of the reserve where a dead standing tree attracted the solitary bees *Lasioglossum calceatum* and *Hylaeus communis*, together with the solitary wasps *Dipogon variegatus* (a spider hunter), *Crossocerus annulipes* and *Psenulus pallipes*, the latter is very much towards the northern edge of its range.

COLEOPTERA (Colin Welch)

This reserve has the benefit of having Jo Jobe's "Checklist of beetles of High Batts Nature Reserve and its environs" published in the High Batts N.R. Annual Reports. Unfortunately, only parts 2-5 (2003-2018) are available on the reserve website. These list some 150 species, many recorded from the surrounding Ripon Parks SSSI, but those not yet known from the reserve are identified. During my 5½ hours in the reserve I recorded 56 species of beetle, of which only about a dozen appear in Jobe's lists, but most are common and widespread species and may well be in his first list to which I do not have access. Nomenclature follows Duff (2018).

Mid July is not the best time of year to collect adult beetles as it is a period when many species are between generations and even the larvae of many phytophagous Chrysomelidae had already left their hostplants to pupate in the soil or leaf litter. Five of the six species of ladybirds were only found as larvae. Only the Harlequin Ladybirds *Harmonia axyridis* were found as adults. Similarly, adult Figwort Weevil *Cionus scrophulariae* had already left their Figwort hostplant, but larvae were present in their silken cocoons on the flowering stems. A single elytron allowed identification as to which species these were. The large Click Beetle *Melanotus villosus* is more frequently found as a larva, rather than as an adult and one was found under bark of a dead standing birch along with a dead female Rhinoceros Beetle *Sinodendron cylindricum*. Other saproxylic beetles recorded were *Cis bilamellatus* and *Anobium fulvicornis* (by sweeping), and *Ernobius mollis*, beaten from pine.

On entering the reserve I was impressed by its floristic richness and had never seen Giant Bellflower in such abundance though it was devoid of any associated beetles. Stands of Hogweed and Meadowsweet were smothered by Common Pollen Beetle *Meligethes aeneus* usurping the usual *Anaspis* flower beetles. I had some success sweeping plants with a known associated beetle fauna, and recorded *Mogulones asperifoliarum* and *Meligethes planiusculus*, on Viper's Bugloss: both are close to their most northern known locality. Also Meadow Cranesbill Weevil *Zacladus geranii*, relatively common on its foodplant, *Mantura matthewsi* on Common Rock-rose, *Longitarsus jacobaeae* and *L. flavigornis* on ragworts. This last species is at the northern limit of its known UK distribution. Some collecting was also done by sieving moss by the North Dragonfly Pond, producing several small beetles not in Jobe's lists – the ground beetle *Acupalpus dubius*, the Lesser Dung Beetle *Cercyon sternalis*, the Featherwing Beetle

Acrotrichis henrici, the rove beetles *Myllaena dubia* and *Euaesthetus ruficapillus* and the marsh beetle *Scirtes hemisphericus*. No Nationally Notable beetles were found and I am starting to appreciate the diminution of species in northern England. Most of the species recorded that I would have regarded as common in southern Britain may be less so here and some may be at the limit of their known distribution.

LEPIDOPTERA - Moths (Charles Fletcher)

A mammoth effort on the Friday night resulted in a network of 13 traps (MV, actinic and LED) being set up, both in the old part of the reserve and in Low Batts – an area which had not been trapped before. The VC64/5 boundary is a rather complicated affair, criss-crossing the area along the old line of the River Ure, so all the traps were actually just within VC65 – somewhat unusual for a VC64 excursion. The night was encouragingly warm and in the morning the traps were bulging with moths resulting in several hours of counting and logging the catch. The final total of 238 species was the largest number ever attracted to light in a single night in the county and contained a number of interesting species.

Amongst the microlepidoptera the highlight was Black-brindled Bell *Epinotia signatana*, a fairly new arrival in the county and the first record for VC65. Barred White Clothes *Nematopogon clematella* is scarce in the county and this was the tenth Yorkshire record, and it was nice to record Bitter-cress Smudge *Eidophasia messangiella*, first found in the county at this site in 2003. Other good finds were Sallow Flat-body *Agonopterix conterminella*, Buff-marked Neb *Monochroa lucidella*, Pine Groundling *Exoteleia dodecella*, Brown-barred Dwarf *Elachista subocellea*, Buff-tipped Marble *Hedya ochroleucana* and Pearl Grass-veener *Catoptria pinella* – all uncommon in the area. A surprising 11 species of *Coleophora* were identified later, mostly by dissection.

The macrolepidoptera did not disappoint. There is plenty of Buckthorn *Rhamnus catharticus* in the main part of the reserve. This is the food plant for some interesting moths and five Brown Scalars and three Dark Umbers (see Figure 5 p228) were a good find. Traveller's Joy *Clematis vitalba* occurs near the dragonfly ponds and a trap in this area attracted a single Haworth's Pug. Seven Double Kidneys was a good total – the area around High Batts is its only site in the north of England. V-moth is now a very scarce moth across the country so it is nice to see that it still occurs here. Other interesting moths included Bordered Beauty, Silky Wainscot, Olive and 13 Beautiful Hook-tips, a recent colonist to the area. Larvae of Mullein were seen by day on Mullein plants near the reserve entrance.

LEPIDOPTERA - Butterflies (Terry Whitaker)

Twenty five species of butterfly have been previously recorded at High Batts. Of these, adults of fourteen were found on the day, including a White-letter Hairstreak, a rarity only recorded once before in 2017 (within one day of our observation).

The weather was warm and perfect with many butterflies about, flying from dawn to dusk in strong sun: Large Skipper, Small Skipper, Green-veined white, Small White, Large White, White-letter Hairstreak, Red Admiral, Comma, Small Tortoiseshell, Peacock, Painted Lady, Ringlet, Speckled Wood and Meadow Brown. The last was the most common butterfly by far. In August Colin Slator reported several records of Dark Green Fritillary on the site and some of these were females ovipositing, confirming a new resident on the reserve.



Figure 5 (see p227). Dark Umber moths added extra charm to the mammoth moth haul of Friday 12 July at High & Low Batts.

K. White

Figure 6 (see p228). The caddisfly Great Reed Sedge *Phryganea grandis*, one of several at High Batts.

S. Flint



Figure 7 (see p228) Banded Demoiselles *Calopteryx splendens* were very evident on the valley bottom meadows.

K. White



FRESHWATER ECOLOGY (Peter Flint & Sharon Flint)

A total of 20 species of adult caddisflies (Trichoptera) were recorded from both Actinic and Robinson traps, although it took six hours for us and the lepidopterists to examine all the traps. Sharon demonstrated to some of the members how adult caddisflies should be photographed in order to get a better chance of a verification on iRecord; and also how to handle the more robust ones in order to look at the tip of the abdomen with a hand lens and see the distinctively shaped appendages which confirm the species ID, such as the very large Great Reed Sedge *Phryganea grandis* (see Figure 6). It was very nice to see so many caddisflies, many of which could be identified live in the field by their distinctive wing patterns; e.g. *Atripsodes albifrons*, with its white stripe markings on the forewing and white head hairs which give it the name *albifrons*, and Grouse Wing *Mystacides longicornis*, with its fetching black and brown striped forewing pattern.

There were many caddisflies coupled up on the light-trap egg cartons, particularly *Cheumatopsyche lepida*, the larvae of which are likely to inhabit the nearby River Ure. Some, such as the large Great Reed Sedge and the smaller *Limnephilus flavicornis*, were coming from standing water bodies. *Orthotrichia costalis*, a species of micro-caddis (Hydroptilidae - which range from 2-5mm forewing length and can be extremely hairy, sometimes spotty or stripy) was recorded. Only one Mayfly was found, the False or Late March Brown *Ecdyonurus venosus*.

ODONATA (Ken White)

Of the 13 species previously recorded at High Batts, adults of five were seen on the day. Brown Hawkers were very active, as were Banded Demoiselles *Calopteryx splendens* (see Figure 7, p228), but members also found Azure, Blue-tailed and Common Blue Damselfly.

BIRDS (Sarah & Ken White)

The official reserve bird list stood at 162 on 20/02/19. Of these, 46 species were recorded during the YNU visit, within or just outside the reserve and adjacent quarry area; this is a good total for a brief visit at such a quiet time of year and a reflection of the rich and varied habitats of the reserve. The birds were either busy feeding families or going into post breeding moult, as this high summer spell was providing ideal conditions for both; only Blackbird offered any reasonable song over the weekend. The reserve has a number of carefully managed nest boxes, with one brood of Tree Sparrows still being fed; this bird has suffered a catastrophic 95% decline nationally in recent times (BTO 2019) and, while numbers have been responding to targeted conservation efforts in Yorkshire, the 2015 YNU Yorkshire Bird Report illustrates that Yorkshire numbers seem to have peaked in 2012 and then declined slightly. Hopefully future bird reports will show further recovery, but Tree Sparrows still desperately need all the help they can get.

There were many independent Blue and Great Tit juveniles feeding on the topped-up bird feeders and several fledged families were foraging about, including those of Wren, Marsh Tit and Grey Wagtail. The confiding Oystercatchers had week-old chicks running about in the adjacent meadows and clouds of Swifts, estimated at 200 strong, were feeding on the aerial plankton rising off the newly-dug gravel pits. A handful of Sand Martins were attending nesting burrows in the vertical banks of the pit margins, though some had apparently been predated and destroyed by local Badgers. A group of four Little Egrets was seen flying over the pits and a very obliging Kingfisher was seen from the Riverside Hide.

The previous YNU visit on 18 August 1991 recorded 59 species; this visit was over a month later in the season and not surprisingly recorded several passage waders (Green Sandpiper, Greenshank and Ringed Plover). However, the members then also recorded Turtle Dove, Tree Pipit, Crossbill and two Spotted Flycatchers, sadly none of which were seen this time.

The East Dales Ringing Group has regular sessions at the reserve, which has yielded interesting records, such as longevity of Blue Tit: 4.5 years, Long-tailed Tit: 4.25 years, and Chaffinch: 6 years. BTO Nest Record cards are regularly submitted by the High Batts volunteer group.

DISCUSSION & CONSERVATION (Ken White)

The High Batts Reserve has a modest and useful introductory website and on the welcoming page it states: “*The Reserve is actively managed to optimise its biodiversity and conserve habitats and species*”. In this respect the objective is most certainly achieved, for the reserve is an amazing interwoven tapestry of habitats, all carefully screened and decompartmentalised using natural features and vegetation to achieve this. Forty six years have passed since this reserve was officially set up and it is very clear that High Batts management has been carried out very successfully. A major factor is that all of the actively-managed open areas and the restricted areas of tree-canopy have allowed the light to reach the ground level, and this in turn has promoted a prolific and diverse ground flora and fauna. The diversity of plants on the

reserve undoubtedly contributed to the county record-breaking overnight moth session, and an investigation into the beetles on the reserve has produced new records for the site. It is good to see that the Thistle Broomrape is being well provided for, and it is almost certain that there are a myriad other taxa waiting to be found and analysed.

There was an agreed consensus that the 2 artificial ponds at the north end of the reserve, the North Pond and Dyke Pond are very full of vegetation. Many organisms can benefit from this condition but the removal of some or most of the vegetation might be of benefit to a greater range of taxa. Alternatively, these ponds could be left and new ponds created to start the open water and marginal vegetation cycle in a different location on the reserve.

It is difficult to ignore the ongoing problems of 2 invasive plants; (1) with Himalayan Balsam; the seed bank of this plant is refreshed every year with seed from plants surviving on the reserve and reaching maturity plus floating seed brought in from upstream during times of the R. Ure flooding. Undoubtedly much time has been spent uprooting these invaders year after year. Extra help for controlling this plant is at hand following extensive research led by Carol Ellison at CABI (Commonwealth Agricultural Bureau International), with Defra approving the use of the pathogenic rust *Puccinia komarovii* var. *glanduliferae* in July 2014 and trials in 2015 at 6 sites in Yorkshire. The rust does not eliminate the balsam but severely reduces its ability to reproduce so successfully, therefore allowing native plants a better chance of survival. (2) Burnet Rose is deeply established at the northern end of the reserve on the lighter sandier soils. There is a continual risk of invasion as varieties of it are still popular with planting in gardens and parks, and therefore there will always be a potential source of seed. Management at High Batts has tried a number of different strategies but the rose has defiantly stayed put. That said, there is a chance that carefully devised applications of tallowamine-free glyphosate – rendered harmless in the soil by microbes and not affecting the soil seedbank – during the spring growth phase could see the dominance by this plant severely reduced.

High Batts has continued to optimise the biodiversity of this very interesting and varied site. Long may it continue. YNU members are very welcome to visit by prior arrangement, by emailing the trustees at: highbatts1@gmail.com

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Semerwater (VC65) 27 July 2019

INTRODUCTION (Terry Whitaker)

Many times over the last few years the VC65 meetings have suffered from extreme weather and poor attendance: extreme rainfall in 2017, heat plus Football World Cup Final in 2018, and again this year when the rain became apocalyptic. The four members of five affiliated societies in the Yorkshire Moth Group who trapped extensively on the Friday night out-numbered the

people able to attend on the Saturday, three (of four affiliated societies).

The site is of importance for the range of wetland communities developed around the margins and inflow streams of Lake Semerwater but there are also areas of hay meadow and semi-improved pasture. The whole area is crisscrossed by small hedges, tree lines and stone walls.

FLOWERING PLANTS (Terry Whitaker)

The SSSIs are well known for wetland habitats. A small area near Raydale beck on the track between Stalling Busk and Marsett is a particularly impressive area of mosaic mire vegetation with M5 *Carex rostrata* - *Sphagnum squarrosum* mire which merges into S27 *Carex rostrata* - *Potentilla palustris* tall-herb fen and W1 *Salix cinerea* - *Galium palustre* riparian woodland by the becks. Willow carr woodland is a community of wet mineral soils on the margins of standing or slow-moving water and in moist hollows, mainly in the lowlands. The canopy is dominated by Grey Willow *Salix cinerea* but its structure is irregular. Young stands often consist of a mass of bushes of variable height; older stands are more regular with a single tier of sallows c.4-8m high. Other woody associates are only occasional: birch, alder, and Pedunculate Oak. Other Sallows are said to be uncommon but in this area Bay-leaved Willow *Salix pentandra*, Purple Willow *Salix purpurea* and many hybrid willows and subspecies are as common as the more typical Grey Willow.

Some of the moth traps were located on the M5 'quaking bog' surrounded by profusely flowering Marsh Cinquefoil *Comarum palustre* (see Figure 8, p233), Bogbean *Menyanthes trifoliata*, Marsh Bird's-foot Trefoil *Lotus pedunculatus* and Ragged Robin *Lychnis flos-cuculi*. The large area of tall fen vegetation in the YWT reserve at the south-east end of the lake is influenced by the canalising of Crooks Beck, the lowering of the lake level and then the lack of grazing. This has caused a shift to very rank vegetation dominated by Tufted Hair-grass *Deschampsia cespitosa* and False Oat Grass *Arrhenatherum elatius*.

PLANT GALLS (Tom Higginbottom)

In the hedgerow edges Blackthorn *Prunus spinosa* leaves were covered in white pimples of the mite gall *Eriophyes similis*. Reddish pimples on leaves of Grey Willow indicated the presence of another mite gall *Aculus laevis*. Light-coloured pimples were common on the leaves of Rowan *Sorbus aucuparia* caused by another mite *Eriophyes pyri*. It was a surprise to find a large Common Whitebeam *Sorbus aria* in the Stalling Busk old churchyard with many leaves covered in the pustules of *E. arianus*. Near Marsett Beck and by Semerwater Bridge three of the common mite galls were found on Alder *Alnus glutinosa* leaves: *Acalitus brevitarsus* featuring the mite erineum on the underside of the leaves, *Eriophyes laevis* spreading pimples all over the leaf surface, and *Aceria nalepaei* with mite pimples along the central vein. On the leaves of some Sallow species there were irregular shiny swellings of the midge *Iteomyia major*. The midge gall *Contarinia jacobaeae* was discovered swelling the flower bud of Common Ragwort *Senecio jacobaea*. Meadowweet *Filipendula ulmaria* was common in damp areas which led to the discovery of rounded swellings of the midge *Dasineura ulmaria* and the bright disk-like swellings of *D. pustulans*. Some shoots were covered in a thick white fungal mycelium caused by *Podosphaera filipendulae*. Searching Ash *Fraxinus excelsior* leaves eventually led to the discovery of the midge *Dasineura fraxini* swelling a central vein. The psyllid galler, *Psyllopsis fraxini*, which rolls the margin of Ash leaves, was the most common gall seen during the day.

LEPIDOPTERA - Butterflies (Terry Whitaker)

Slightly more butterflies were seen on the evening of the 26th which was very warm and cloudy, than on the day of the excursion, which dawned grey and wet and became wetter accompanied by a strong, cold westerly wind. Early on, near the Lake Semerwater outflow stream a single Small Tortoiseshell, a Ringlet and a Meadow Brown were spotted sheltering and nectaring on the calcareous vegetation by the Carlow Stone glacial erratic boulder. Later in the day after serious heavy rain had set in a few Small Whites and Meadow Browns, and a single Red Admiral were seen on the YWT NR at the south-east end of the lake. The hardy Ringlets battling through the rain were by far the most abundant butterfly.

LEPIDOPTERA - Moths (Charles Fletcher)

Semerwater SSSI is not the easiest place to trap moths, but undaunted the team lugged traps and generators to various parts of the site on the Friday night before retiring to bed. Of the five MV traps, one succumbed to generator failure, so soon after dawn and in steady drizzle, the four remaining traps were opened and the contents logged. The results considerably exceeded expectations with 125 species caught. A total of 5560 moths was largely due to huge numbers of *Catoptria margaritella*; 3020 were recorded but many more flew away before they could be counted. This is by far the largest catch of this moss-feeding Pyralid of boggy places ever caught in the county. The most exciting find however was a single *Oncocera semirubella* (see Figure 9, p233). This is the first record of the Pyralid for the county. It is predominantly a very local southern moth; the larvae feed on various members of the Leguminosae. Several other interesting microlepidoptera included *Bryotropha boreella*, *Philedone gerningana* and *Eulamprotes atrella*. Amongst a good number of *Opostega salaciella* were three of the much scarcer *Pseudopostega crepusculella*, a rare moth of fenland areas in the county. Another surprising find was seven Willow Ermines *Yponomeuta rorrella*; there was an influx of this moth in 2019 similar to that in 2018.

The macrolepidoptera did not disappoint. Highlights were Pimpinell Pug *Eupithecia pimpinellata*, Round-winged Muslin *Thumatha senex*, Oblique Carpet *Orthonama vittata*, Blue-bordered Carpet *Plemyria rubiginata*, Scarce Silver Y *Syngrapha interrogationis*, Coronet *Craniophora ligustri* and Square-spotted Clay *Xestia stigmatica*. All these are scarce or local in the county and 30 species in total were new for the 10K square SD98.

BIRDS (Jill Warwick)

Whilst setting up the moth traps the previous evening in the wonderful SSSI fen habitat of Raydale, below the hamlet of Stalling Busk, and some 2km from Semerwater (SD9085), a pair of anxious Curlews shepherded their well-grown brood of two young away from the moth trappers, whilst Oystercatchers called overhead. In the valley bottom, Sedge Warblers were singing on territory, likewise Lesser Redpolls were vocal, but the biggest surprise was a 'reeling' Grasshopper Warbler in dense vegetation close to one of the moth traps. Around the hamlet itself, Swallows and House Martins were feeding dependent young, a foraging flock of juvenile Great and Blue Tits had attracted a Goldcrest and a small colony of House Sparrows favoured a dense clump of Ivy growing on a house wall. A Tawny Owl calling after dark nudged the species total here to 18.

On the day of the field meeting, the conditions were somewhat difficult for any natural history recording, as dawn broke with low cloud and persistent rain (it had rained most of the night).



Figure 8 (left). Marsh Cinquefoil *Comarum palustre*

Figure 9 (above). The micro-moth *Oncocera semirubella*, a first for the county.

A few drizzle-soaked minutes spent in the car park at Semerwater resulted in a count of just 16 species. Mallard, Canada Goose, Black-headed Gull and Woodpigeon were predictable, whilst approximately 50 Lesser Black-backed Gulls loafed at the furthest end of the lake. Three solitary Grey Herons were strategically positioned around the water's edge and two Common Sandpipers (a declining bird along lowland water courses) flew along the shoreline, calling. Commoner passerines included Blue Tit, Blackbird, Goldfinch, Wren and Pied Wagtail, whilst the only song was provided by a resilient Willow Warbler. Combining those noted at Stalling Busk and excluding duplicates, a total of 34 species was recorded.

MAMMALS, REPTILES & AMPHIBIANS (Terry Whitaker)

A Brown Hare and signs of Moles and Fox (scats) was seen on the main SSSI south of the lake.

FRESHWATER BIOLOGY

Many shells of the endangered Freshwater Pearl Mussel *Margaritifera margaritifera* were seen on the strand line of the lake as was a single dead Common Roach *Rutilus rutilus* not yet eaten by the abundant gulls.

CONSERVATION

It was good to see that the vegetation was apparently in very good condition on the SSSI mires below Stalling Busk. These are mainly unmanaged but probably so wet that they are in a semi-stable climax seral stage. The Marsett Meadows parts of the YWT reserve (between Stalling Busk and Marsett) were traditional hay meadows which are not now exceptionally species-rich but are being brought back by improved management and possible seed translocation. The Common Bird's-foot Trefoil *Lotus corniculata* found in most of these meadows is probably the food plant for *Oncocera semirubella* the most notable moth recorded on the visit.

Managing the tall fen vegetation in the YWT reserve has presented problems; these include difficult access for stock, flooding and finding an appropriate local grazier. The Trust had been trialling planting to increase the area of the willow carr but without serious grazing or cutting

parts of the rank grassland it will probably not do much to improve the biodiversity of this part of the reserve.

Some of the tree planting schemes on the higher ground above the southeast end of the lake have been badly affected by Ash Die-back *Hymenoscyphus fraxineus* and most of the young Ash saplings have now been removed and replaced by other species. The majority of the mature Ash trees in the area are also starting to exhibit signs of the disease.

ACKNOWLEDGEMENTS

The group expressed thanks to the land owner the Yorkshire Wildlife Trust and its area manager Graham Standing, to Natural England for allowing access to the sites and to the ladies of the Parochial Church Council, especially Jackie Masterman, for arranging tea and home-made scones and cakes.

North Duffield Carrs, Lower Derwent Valley (VC61) 17 August 2019

INTRODUCTION (Sarah White)

The Excursion was held at North Duffield Carrs, part of the Lower Derwent Valley National Nature Reserve, by kind invitation of the Reserve Manager Craig Ralston. We were fortunate in having a dry, sunny day after torrential rain during the previous 24 hours, and 17 members attended the meeting. We explored the interesting range of habitats that the reserve offers, including damp neutral grassland, ponds and ditches with their marginal tall herb habitats, as well as the riverbank itself. Although the hay had been cut from the meadows, there was already good re-growth of vegetation. The meeting, chaired by Terry Crawford, was held at North Duffield Village Hall with 10 affiliated societies represented.

Members present wished to congratulate Natural England on its management of the site, in particular the excellent condition of the hay meadows. The reserve manager had asked for advice on management and it was suggested that the site would benefit from rotational clearance of the internal ditches and complete removal of Himalayan Balsam *Impatiens glandulifera* (if possible). While it is understood that the openness of the site is part of its intrinsic character, the roots of low-growing willows provide a valuable habitat for invertebrates, as would logs or large stones placed in the pond edges. It was recommended that the algal blanket on the larger pond at the northern end of the site (SE694380) should be reduced, while leaving some as a habitat for caddisflies. The scrape in front of the bird hide (SE697368) was quite overgrown and would benefit from some opening up, but this would be best done a bit at a time. While the tidiness of the site was very creditable, it was also suggested that some boards left around on the grassland, might provide good habitats for invertebrates etc.

As there is no specific report for mammals, reptiles or amphibians, these are included here. A Brown Hare was seen as well as a Roe Deer and Bank Voles. Molehills indicated the presence of Mole. Frogs were seen but no other reptiles or amphibians.

BOTANY (Gabrielle Jarvis)

It was rather late in the year to botanise on the Derwent Ings but the day turned out to be quite successful, with records for a number of uncommon plants such as the rare Greater Water-

parsnip *Sium latifolium* plus a new site record. Since the hay meadows had been cut early in July, efforts were concentrated on a poorer field left uncut, the wetter areas, the main/ring drain and a side drain as well as a further monad including the large pond. First impression was of general exuberant growth and dominance by a few plants. Water level in the drains was high. Reed Sweet-grass *Glyceria maxima* was abundant, almost choking the drains, and there was also a little Reed Canary-grass *Phalaris arundinacea*. Apparently, toleration was deliberate management policy to prevent a stand of Himalayan Balsam *Impatiens glandulifera* from colonising. Trifid Bur-marigold *Bidens tripartita* (see Figure 10, p 236) was a, perhaps, too dominant feature of all wetter areas along with Sneezewort *Achillea ptarmica* and Marsh Yellow-cress *Rorippa palustris*. Best find in the main drain was Frogbit *Hydrocharis morsus-ranae*, a new record for the site and one of only a handful for VC61. The remoteness and inaccessibility of the North Duffield site would suggest that the Frogbit was not introduced here which, in turn, strengthens the case for previous finds at nearby Pocklington Canal being native. Only the distinctive leaves and unanchored roots floating on the surface were found with no evidence of turions (buds for asexual reproduction).

Some of the other aquatic plants growing in the main drain were Rigid Hornwort *Ceratophyllum demersum*, Water Horsetail *Equisetum fluviatile* and Ivy-leaved Duckweed *Lemna trisulca*. Aquatic marginal finds included Fine-leaved Water-dropwort *Oenanthe aquatica*, Tubular Water-dropwort *O. fistulosa*, a patch of Water-pepper *Persicaria hydropiper*, even the ubiquitous Trifid Bur-marigold. Dominated as it was by Reed Sweet-grass, for long stretches the dyke vegetation appeared fairly monotonous, though at the point of entry stands of Purple-loosestrife *Lythrum salicaria* and Tansy *Tanacetum vulgare* brightened up the margins with some Marsh Woundwort *Stachys palustris*.

There was obvious overlap with the drain margins but features of wetter grassland areas, apart from the dominant Bur-marigold, were Tufted Forget-me-not *Myosotis laxa*, Pink Water-speedwell *Veronica catenata*, Marsh Speedwell *V. scutellata* with its delicate pale flower, Common Marsh-bedstraw *Galium palustre* and Marsh Stitchwort *Stellaria palustris*. Two members of the mint family caused some confusion with Water Mint *Mentha aquatica* found in wet grassland and Corn Mint *M. arvensis* as aquatic marginal! But best find here by far was Slender Tufted-sedge *Carex acuta*, seen only once before in this tetrad by Eva Crackles in a contiguous stretch of the River Derwent SE63Y.

This late in the season there was not a great variety of plants favouring drier habitats but it was a pleasure to see quantities of Pepper-saxifrage *Silaum silaus* and Meadow-rue *Thalictrum flavum* together with the Great Burnet *Sanguisorba officinalis* in the uncut field. Despite an extensive search where it had been seen flowering just a few weeks earlier in a rutted track, Mousetail *Myosurus minimus* remained elusive. That would have been a great find! No sign either of Water Chickweed *Myosoton aquaticum* which is widespread in nearby SE64 at East Cottingwith. Highlight of the large pond area was a record for the rare Narrow-leaved Water-plantain *Alisma lanceolatum* growing alongside its more common relative Water-plantain *A. plantago-aquatica*. Marsh Horsetail *E. palustre* was also recorded here.

Finer grasses had been mown. Trees recorded included, unsurprisingly, several species of willow: Crack *Salix fragilis*, White *S. alba*, Osier *S. viminalis* and Grey *S. cinerea* as well as Alder *Alnus glutinosa*. Pedunculate Oak *Quercus robur* was found to be a rich source of galls. Elsewhere on



Figure 10 (see p.235). Trifid Bur-marigold *Bidens tripartita* was dominant in some areas, despite being near the north of its range in the UK.



Figure 11 (see p237). Whirlpool Ram's-horn Snail *Anisus vortex*, found in a ditch rather than as usual, in larger water bodies.



Figure 12 (see p237). The Tachinid fly *Eriothrix rufomaculata* on flowers of Sneeze-wort *Achillea ptarmica*.



Figure 13 (see p239). Water Scorpion *Nepa cinerea*

All photos by K. White

the site Fennel Pondweed *Potamogeton pectinatus* was seen at the river and two specimens of Common Stonewort *Chara vulgaris* were acquired from scrapes.

A worthwhile field trip with some uncommonly recorded species, useful records for Atlas 2020.

PLANT GALLS (Tom Higginbottom)

A number of galls were found on oak trees around the car park and along a pathway towards one of the bird hides. Gall wasps had formed the Knopper Gall *Andricus quercuscalicis* on acorns and the Artichoke Gall *A. foecundatrix* on buds. Spangle galls have been quite uncommon this year but a small number were found under leaves: the Common Spangle *Neuroterus quercusbaccarum*, the Silk Button *N. numismalis* and the Smooth Spangle *N. albipes*. Many leaves of White Willow were host to the sawfly bean gall *Pontania proxima*. The most exciting discoveries were on herbaceous plants. There were distinctive swellings on the stems of Creeping Thistle caused by the picture-wing fly *Urophora cardui*. A receptacle of Spear Thistle was examined and eventually a hard woody swelling was discovered which was dissected, revealing the larvae of the related *U. stylata*. Flowers of Tansy were host to flask-shaped hard swellings which indicated the presence of the gall midge *Rhopalomyia tanaceticola*. Two different midge galls were seen on Meadowsweet, pimple structures formed by *Dasineura ulmaria* and yellow patches formed by *D. pustulans*. Stem leaves were covered by a white fungal mycelium caused by *Podosphaera filipendulae*.

CONCHOLOGY (Adrian Norris)

Dr Terry Crawford and myself, with the help of the Freshwater Section Sharon & Peter Flint, recorded a total of 16 species and a total of 32 records from six 1 kilometre squares. Most of these were common freshwater and marginal molluscs associated with habitats of this type. The larger pond which was visited by the Flints proved to be different from the ditches we visited and thus they recorded species we did not. These included two freshwater bivalves, the Horny Orb-mussel *Sphaerium corneum* and the Lake Orb-mussel *Musculium lacustre*, and Whirlpool Ram's-horn *Anisus vortex* (see Figure 11 p 236), all of which are associated with larger areas of water than the drain and ditches we looked at.

ENTOMOLOGY (Andrew Grayson)

The writer's fieldwork was restricted to an hour or so before noon but, nevertheless, produced some interesting results, especially the Nationally Scarce hoverfly *Triglyphus primus* and the parasitic fly *Meigenia mutabilis*, both of which have been recorded very sparingly in Yorkshire. These inconspicuous flies were found in a secluded area dominated by dense nettle beds and umbellifers adjacent to the site car park (NGR Centrum SE6976436671). Here were a great abundance of invertebrates, particularly Diptera, and especially Muscids (*Morellia* species), of which many were captured for study purposes. The catch produced roughly equal numbers of *M. aenescens* (all freshly emerged and pristine) and *M. simplex* (all damaged or worn; hence must have emerged earlier than *M. aenescens*). Here too, with Common Bluebottle *Calliphora vicina* and Orange-bearded Bluebottle *C. vomitoria*, was the much more local Bird Blowfly *Protocalliphora azurea*, plus the fairly large parasitic fly *Pales pava*, which has been little recorded in Yorkshire since it was first discovered in the county almost a century ago. The Tachinid fly *Eriothrix rufomaculata* was also noted (see Figure 12 p236). Hymenopterans attracted to the umbellifers included the sawflies *Arge nigripes* and *Athalia rosae*, the solitary wasps *Crossocerus cetratus* and *Ectemnius continuus*, and the yellow-face bee *Hylaeus communis*.

A brief investigation of tall ruderal plants at the margins of the scrape below the bird hide produced such colourful insects as the Mint Moth *Pyrausta aurata* and the thick-headed fly *Conops quadrifasciatus*. Hemiptera and Coleoptera were not much in evidence, but the conspicuous Forest Bug *Pentatomida rufipes* and froghopper *Aphrophora alni* were found in the nettle bed area, and Graham Heffernan photographed the unmistakeable Golden-bloomed Grey Longhorn beetle *Agapanthia villosoviridescens* amongst spiny vegetation.

LEPIDOPTERA (Terry Crawford)

Despite lengthy warm sunny spells, the breezy conditions and open nature of much of the site kept butterfly numbers rather low. Nevertheless, there were good numbers of Small Tortoiseshell and several Red Admiral and Small Copper, all looking very fresh. Green-veined White were visiting the longer vegetation in the damper areas, and a few sun-spot areas in the peripheral woodland and scrub contained Speckled Wood. A Meadow Brown was looking distinctly tatty. This being a good year for Painted Lady, it was not surprising that several were seen flying strongly, even into the wind, across the grasslands. A moth-trap was run during the previous night. Wind and heavy rain meant a small catch of 36 moths of 12 species typical for the time of year with Large Yellow Underwing, Six-striped Rustic and Mother of Pearl accounting for more than half of the catch. The only moth of note was a single and quite early Autumnal Rustic, a nationally common and widespread but declining species, that is strangely rare and local through much of the Midlands, Lincolnshire and VC61. A single Mouse Moth was found in the bird hide.

ODONATA, AQUATIC COLEOPTERA AND AQUATIC HETEROPTERA (Richard Shillaker)

Recording of these aquatic invertebrates was focused on the large pond as well as the scrape in front of the bird hide. The blustery conditions were not ideal for recording adult Odonata, especially as the large pond was situated in a very open location. However, with tall aquatic vegetation and raised banks providing some wind protection, damselflies were quite numerous in certain sheltered spots along the edge. Egg laying by Common Blue Damselflies *Enallagma cyathigerum*, Common Darters *Sympetrum striolatum* and a Brown Hawker *Aeshna grandis* were observed at this pond; six other common species of Odonata were also recorded there, including two Black-tailed Skimmers *Orthetrum cancellatum* and an Emperor Dragonfly *Anax imperator*. Fewer were seen at the scrape; several Brown Hawkers circled over the reeds and their aquatic larvae were found, as well as numerous damselfly larvae. The absence of adult Migrant Hawkers *Aeshna mixta* at both the scrape and larger pond was noteworthy; this was probably due to their preference to hunt insects along hedgerows and at other sheltered locations, often away from water, at that time of year.

Raising a pond net from the large pond was accompanied on several occasions by the distinctive sound of stridulating Screech Beetles *Hygrotus hermanni*, a southern beetle which is extending its range northwards. Other water beetles (≥ 10 mm long) from here were the large dytiscids *Colymbetes fuscus* and *Acilius sulcatus*, both of which are widespread in Yorkshire, and the smaller *Agabus bipustulatus*, a very common dytiscid in Britain. Particularly noteworthy from the scrape was the reed beetle *Donacia versicolorea* with its bandy hind limbs (and swollen hind femora in males). The adults and larvae are reported to feed on the leaves of Broad-leaved Pondweed *Potamogeton natans* which would probably account for the numerous small nibble holes seen on the floating leaves of this pondweed.

It was good to find evidence of breeding by two of the largest UK water bugs, the Water Stick Insect *Ranatra linearis* and Water Scorpion *Nepa cinerea* (see Figure 13 p236). An immature specimen of each was brought to my attention by Sharon and Peter Flint. Other large water bugs identified were the Saucer Bug *Ilyocoris cimicoides*, the Backswimmer *Notonecta glauca* and the water boatmen *Corixa dentipes* and *C. punctata*.

FRESHWATER BIOLOGY (Sharon Flint)

The caddisflies *Glyphotaelius pellucidus* and *Neureclipsis bimaculata* were both recorded from the morning light trap. *G.pellucidus* is from seasonal woodland pools and *N.bimaculata* would have been coming from the nearby River Derwent. The large pond had juvenile caddisflies *Triaenodes bicolor* in abundance and Ken photographed a juvenile Great Reed Sedge. I also recorded the caseless caddis, *Holocentropus picicornis* from the large pond, swept an adult *Polycentropus flavomaculatus* from the vegetation by the pond and collected one juvenile *Agrypnia pagetana* from the scrape.

Mayflies: The most abundant were *Cloeon dipterum* juveniles and one adult which was found by the small stream adjacent to the car park. We also had *Caenis robusta* juveniles. Other freshwater organisms included lots of alderfly larvae in both scrape and large pond and also the Water Spider *Argyroneta aquatica* was photographed by Ken and determined by Peter, from the large pond.

BIRDS (Ken White)

A total of 31 species were recorded by members on the day, but particularly notable was the gentle and continual passage of birds moving down the valley. There were occasional Swifts and all three hirundines, mainly Swallows, many of which were juveniles. Indeed juvenile birds were the feature of the day; a juvenile Buzzard seemed to call all day from trees just to the south of the A163 car park; juvenile Kestrels were trying their hovering skills over the newly cut meadows east of the River Derwent, both Black-headed and Common Gulls passed through with juveniles tagging on behind; charms of Goldfinches flitted from one patch of seeding thistles to another, with more than 60% of the birds lacking the adult red face, and a large wandering flock of Starlings had a similarly high proportion of juveniles.

Craig Ralston reported a successful breeding season for the birds on the reserve, with Curlew and Snipe doing very well earlier in the season, but with Redshank doing not so well. All these birds had vacated the site and moved on by the time of the excursion. Late staying birds included Reed Warbler and Yellow Wagtail amongst the riverside vegetation, and an anxious Sedge Warbler, still feeding young, was lurking around the edge of the first scrape. Local birds included a large mixed flock, some 300 strong, of Rook and Jackdaw, on the recently cut meadows on the east side of the river, together with several groups of Stock Dove, all repeatedly put up by the frequent passes of hunting Buzzards, a migrating juvenile Marsh Harrier and even a Hobby. A notable absentee was Tree Sparrow, despite plenty of large hedgerows in the vicinity of the car park and bird hide.

YNU Calendar 2020

Events notified at time of publication are shown below. Up-to-date information and further details can be found at www.ynu.org.uk/events/general, and on the YNU Membership Card.

Mar 15 Lepidoptera Group Annual Meeting. Bramham Village Hall. 11:00.

21 Entomological Section Recorders' Reports & Conversazione. Wilberfoss Community Centre, 10:00 to 16:30.

28 **YNU Annual Conference and Exhibition.** *Biological recording for conservation management.* Ron Cooke Hub, York University, YO10 5GE. For details see p198 and the YNU website.

May 9 Bryological Section. Scoska Wood and Brown Scar, Littondale. VC 64. Meet 10:00 in Arncliffe, near Falcon Inn SD931718. Contact: Tom Blockeel (Tblockeel@aol.com).

16 **VC61 Excursion.** Flamborough. Car park at TA230695.

22/23 Leeds Naturalists' Club 150th Anniversary Springwatch, in partnership with Leeds City Council Parks & Countryside Service. A Bioblitz based in Meanwood Park. Contact: Andy Millard (editor@ynu.org.uk)

30 Botanical Section Potteric Carr Bioblitz VC63. Meet Visitor Centre, Mallard Way, Doncaster, DN4 8DB. SE588005. Contact: Louise Hill (louise.a.hill@googlemail.com).

June 13 **VC62 Excursion.** Duncombe Park, nr. Helmsley. SE612835.

15 Botanical Section joint with NE Yorks BSBI Botany Group. Farwath in Newtontdale VC62. Meet 10:30. For further details contact Wendy English (wendy.english@btopenworld.com).

24 Botanical Section. Eskeleth Beck and Fotheringholme SSSI. VC65. Arkengarthdale. NY999037. Contact: Linda Robinson (lindarobinson157@btinternet.com).

28 Botanical Section. Fishlake Green Lanes & Washlands. VC63. Meet 10:00 corner of Sour Lane & Cowick Road - Jubilee Bridge (SE674148). Parking limited; share if possible. Contact: Louise Hill (louise.a.hill@googlemail.com).

Jul 4 **VC63 Excursion.** Central Dearne Valley. Carpark at SE372064.

18 **VC64 Excursion.** Askham Bog. Carpark on A1036. SE575479.

Aug 15 **VC65 Excursion.** Cautley Spout & Cautley Home Beck. SD698969

Sept 23 University of Leeds MSc Field Skills Day

Oct 10 **YNU Natural Sciences Forum** (10:30-12:30) and **YNU Annual General Meeting** (13:30-16:30). St John's Methodist Church Hall, Settle BD24 9JH.

17 Entomological Section AGM. Potteric Carr NR Education Centre. 11:00 to 16:30. Open to the public for exhibits from 13:30 onwards.

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- using any paragraph formatting and line spacings other than single.
- using tabs to tabulate information (please use MS Word table format).
- inserting any figures, graphs or plates into the text; indicate their proposed locations in the text and send them as separate files.

Good quality, high resolution images are very welcome and should be sent as .jpg files, with a separate MS Word file containing the caption and name of the person to whom the image should be attributed.

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